

SEARCH REQUEST FORM

Requestor's

Name:

Sharon G. 21

Serial

Number:

09/2287231

Date:

1/19/2000

Phone:

305-3910

Art Unit:

1616

3327

2001

Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

*Please search for a nutraceutical supplement
comprising Sterol + Omega-3 fatty acid
or ester*

*use - lowering Serum triglycerides
+ cholesterol levels*

*Nutraceutical Supplement in the
manufacture of food supplement*

STAFF USE ONLY

Date completed:

2-8-00

Searcher:

1000/10000

Terminal time:

1:00

Elapsed time:

CPU time:

Total time:

2:10

Number of Searches:

Number of Databases:

Search Site

☐ STIC

☐ CM-1

☐ Pre-S

Type of Search

☐ N.A. Sequence

☐ A.A. Sequence

☒ Structure

☐ Bibliographic

Vendors

☐ IG

☐ STN

☐ Dialog

☐ APS

☐ Geninfo

☐ SDC

☐ DARC/Questel

☐ Other

=> d his

(FILE 'HOME' ENTERED AT 08:06:34 ON 08 FEB 2000)

FILE 'REGISTRY' ENTERED AT 08:06:37 ON 08 FEB 2000
ACT QAZI834/A

L1 STR
L2 SCR 1992 OR 2016 OR 2026 OR 2021
L3 SCR 963 AND 1006 AND 1018 AND 1199
L4 9706 SEA FILE=REGISTRY SSS FUL L1 AND L3 NOT L2

L5 204883 S 4432.3/RID
L6 231 S L4 AND L5
L7 STR L1
L8 50 S L7 SSS SAM SUB=L4
L9 2247 S L7 SSS FUL SUB=L4
L10 60 S L5 AND L9

FILE 'CAPLUS' ENTERED AT 08:14:11 ON 08 FEB 2000

L11 181 S L10
L12 8 S L11 AND NUTRITION?
L13 6 S L11 AND (SUPPLEMENT?)
L14 12 S L12 OR L13
L15 127 S L10 AND (CHOLESTEROL OR TRIGLYCERID?)
L16 11 S L10 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)
L17 21 S L12 OR L13 OR L16

FILE 'REGISTRY' ENTERED AT 08:24:50 ON 08 FEB 2000

L18 2187 S L9 NOT L10

FILE 'CAPLUS' ENTERED AT 08:25:18 ON 08 FEB 2000

L19 100 S L18(L) (STEROL OR SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
S
L20 5 S L18(L) (STIGMASTEROL)
L21 0 S L20 AND (NITRITION? OR SUPPLEMENT?)
L22 0 S L20 AND (NUTRITION?)
L23 0 S L20 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:48:38 ON 08 FEB 2000

L24 2 S L14
L25 1 S L16
L26 2 S L24 OR L25
L27 2 DUP REMOV L26 (0 DUPLICATES REMOVED)

FILE 'REGISTRY' ENTERED AT 08:50:43 ON 08 FEB 2000

FILE 'CAPLUS' ENTERED AT 08:51:05 ON 08 FEB 2000

L28 17995 S L9
L29 20 S L18(L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO
L30 4 S L29(L) (MIXTURE OR ESTER? OR MIXT)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:57:41 ON 08 FEB 2000

Searched by John Dantzman 308-4488

L31 0 S L30

FILE 'REGISTRY' ENTERED AT 08:59:53 ON 08 FEB 2000

L32 31 S L9 AND DOCOSAHEXAENOATE
L33 351 S L9 AND EICOSAPENTAENOIC
L34 382 S L32 OR L33
L35 3 S L34 AND L5

FILE 'CAPLUS' ENTERED AT 09:03:01 ON 08 FEB 2000

L36 40 S L34 AND (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTE
L37 2 S L34 (L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO
L38 18 S L34 (L) STEROL
L39 23 S L35
L40 25 S L37 OR L39
L41 25 S L37 OR L39 OR L35
L42 25 S L35 OR L37

=> D QUE L4

L1

STR

9

O

C @10

```

C—C—C=C—Ak—C—O—G1
1  2  3  4  5  6  7  8

```

VAR G1=H/10

NODE ATTRIBUTES:

NSPEC IS RC AT 10

CONNECT IS E2 RC AT 5

CONNECT IS M1 RC AT 10

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 5

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS M3 C AT 5

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L2 SCR 1992 OR 2016 OR 2026 OR 2021

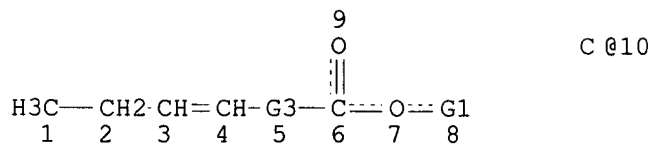
L3 SCR 963 AND 1006 AND 1018 AND 1199

L4 9706 SEA FILE=REGISTRY SSS FUL L1 AND L3 NOT L2

=> D L7

L7 HAS NO ANSWERS

L7 STR



VAR G1=H/10

REP G3=(1-20) C

NODE ATTRIBUTES:

NSPEC IS RC AT 10

CONNECT IS M1 RC AT 10

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

Welcome to STN International! Enter x:x

LOGINID:ssspta1202sxq

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

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NEWS	4	Apr 09	ZDB will be removed from STN
NEWS	5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS	6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS	7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS	8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS	9	Jun 03	New e-mail delivery for search results now available
NEWS	10	Jun 10	MEDLINE Reload
NEWS	11	Jun 10	PCTFULL has been reloaded
NEWS	12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS	13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS	14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS	15	Jul 30	NETFIRST to be removed from STN
NEWS	16	Aug 08	CANCERLIT reload
NEWS	17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS	18	Aug 08	NTIS has been reloaded and enhanced
NEWS	19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS	20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS	21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS	22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS	23	Sep 03	JAPIO has been reloaded and enhanced
NEWS	24	Sep 16	Experimental properties added to the REGISTRY file
NEWS	25	Sep 16	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS	26	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS	27	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS EXPRESS			October 14 CURRENT WINDOWS VERSION IS V6.01, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
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FILE 'HOME' ENTERED AT 16:23:34 ON 17 OCT 2002

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'CAPLUS' ENTERED AT 16:23:56 ON 17 OCT 2002

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FILE COVERS 1907 - 17 Oct 2002 VOL 137 ISS 16

FILE LAST UPDATED: 16 Oct 2002 (20021016/ED)

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=> s sterol ester

20272 STEROL

447887 ESTER

L1 538 STEROL ESTER

(STEROL(W)ESTER)

=> s l1 and eicosapentaenoic acid

6222 EICOSAPENTAENOIC

3454055 ACID

5626 EICOSAPENTAENOIC ACID

(EICOSAPENTAENOIC(W)ACID)

L2 7 L1 AND EICOSAPENTAENOIC ACID

=> d l2 1-7 ibib hitstr abs

L2 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:416035 CAPLUS

DOCUMENT NUMBER: 131:243460

TITLE: Enzymatic synthesis of steryl esters of polyunsaturated fatty acids

AUTHOR(S): Shimada, Yuji; Hirota, Yoshinori; Baba, Takashi; Sugihara, Akio; Moriyama, Shigeru; Tominaga, Yoshio; Terai, Tadamasa

CORPORATE SOURCE: Osaka Municipal Technical Research Institute, Osaka, 536-8553, Japan

SOURCE: Journal of the American Oil Chemists' Society (1999), 76(6), 713-716

CODEN: JAOCA7; ISSN: 0003-021X

PUBLISHER: AOCS Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Steryl esters of long-chain fatty acids have water-holding properties, and polyunsatd. fatty acids (PUFA) have various physiol. functions. Because steryl ester of PUFA can be expected to have both features, we attempted to synthesize steryl esters of PUFA by enzymic methods. Among lipases used, *Pseudomonas* lipase was the most effective for the synthesis of cholesteryl docosahexaenoate. When a mixt. of cholesterol/docosahexaenoic acid (3:1, mol/mol), 30% water, and 3000 units/g of lipase was stirred at 40.degree.C for 24 h, the esterification extent attained 89.5%. Under the same reaction conditions, cholesterol, cholestanol, and sitosterol were also esterified efficiently with docosahexaenoic, eicosapentaenoic, arachidonic, and .gamma.-linolenic acids.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1994:159267 CAPLUS

DOCUMENT NUMBER: 120:159267

TITLE: Biochemical composition and fatty acid content of fertilized eggs, yolk sac stage larvae and first-feeding larvae of the Senegal sole (*Solea senegalensis* Kaup)

AUTHOR(S): Vazquez, R.; Gonzalez, S.; Rodriguez, A.; Mourente, G.
CORPORATE SOURCE: Centro de Investigacion y Cultivo de Especies Marinas (CICEM), El Toruno, PEMARES, El Puerto de Santa Maria (Cadiz), Spain

SOURCE: Aquaculture (1994), 119(2-3), 273-86
CODEN: AQCLAL; ISSN: 0044-8486

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Changes in biochem. compn. and fatty acid content were investigated during the early development of the Senegal sole (*S. senegalensis*). The pattern of lipid utilization in this rapidly developing marine flatfish species favored neutral lipids, particularly triacylglycerol and **sterol ester** fractions. Fertilized eggs and yolk sac larvae were richer in neutral lipids, which decreased during development. In contrast, a significant increase occurred to proportions of phospholipids, mainly due to significant increases in minor classes such as phosphatidylserine, phosphatidylinositol, and phosphatidic acid/cardiolipin, whereas major phospholipid classes such as phosphatidylcholine and phosphatidylethanolamine remained const. during development. Satd. and monounsatd. fatty acids such as 16:0, 16:1n-7, 18:1n-9, and 18:1n-7 were utilized to a greater extent than polyunsatd. fatty acids as energy substrates. A requirement for long-chain polyunsatd. fatty acids such as **eicosapentaenoic acid** (20:5n-3) and docosahexaenoic acid (22:6n-3) is likely since no evidence of bioconversion from their precursors was found. A requirement for arachidonic acid (20:4n-6) is also suggested as it is specifically retained throughout development.

L2 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1991:554573 CAPLUS

DOCUMENT NUMBER: 115:154573

TITLE: Phospholipid and fatty acid compositions of *Alteromonas putrefaciens* and *A. haloplanktis*

AUTHOR(S): Matsui, Y.; Suzuki, S.; Suzuki, T.; Takama, K.
CORPORATE SOURCE: Fac. Fish., Hokkaido Univ., Hokkaido, 041, Japan
SOURCE: Letters in Applied Microbiology (1991), 12(2), 51-3
CODEN: LAMIE7; ISSN: 0266-8254

DOCUMENT TYPE: Journal
LANGUAGE: English

AB The phospholipid and fatty acid compn. of *A. putrefaciens* S29 (nonhalophilic type) and *A. haloplanktis* S5B (halophilic type) was detd. Major phospholipids of both strains were the same when they were grown in media contg. optimum salt concns. However, the fatty acid compn. of phospholipids in strain S29 was remarkably different from that of strain S5B. Strain S29 contained iso-C15:0 and **eicosapentaenoic acid** (20:5) as constituent fatty acids of phospholipids and also contained **sterol ester** and wax as neutral lipids. In contrast, strain S5B did not contain branched and polyunsatd. fatty acids, and neither **sterol ester** nor wax were detected.

L2 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1984:31910 CAPLUS
DOCUMENT NUMBER: 100:31910
TITLE: Lipid composition and metabolism in oospores and oospheres of *Achlya americana*
AUTHOR(S): Fox, Norman C.; Coniglio, John G.; Wolf, Frederick T.
CORPORATE SOURCE: Dep. Gen. Biol., Vanderbilt Univ., Nashville, TN, 37235, USA
SOURCE: Exp. Mycol. (1983), 7(3), 216-26
CODEN: EXMYD2; ISSN: 0147-5975
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Oospores and oospheres of *A. americana* were isolated by sonication and filtration through nylon-mesh cloth of progressively diminishing porosity, and their lipid compn. was investigated. The av. dry wt. of an oospore was 3.2 ng. Approx. 37% of the dry wt. was composed of lipid. Triacylglycerols represented 88.7% of the total lipid, unesterified fatty acids made up 9.7%, and sterols, sterol esters, phospholipids, and mono- and diacylglycerols each constituted <1% of the total. Palmitic, oleic, and linoleic acids were the predominant fatty acids, along with smaller amts. of myristic, palmitoleic, stearic, arachidonic, and eicosapentaenoic acids. The fatty acid compn. of the triacylglycerol fraction was similar to that of the total lipid, while that of the phospholipid fraction was high in oleic acid. The unesterified fatty acid fraction was higher in satd. components than was the total lipid, while the **sterol ester** fraction was higher in unsatd. fatty acids. In both the total lipid and the various lipid classes, unsatd. fatty acids increased during spore development. The sterol fraction consisted of 72% fucosterol, 22% cholesterol, and 7% 24-methylenecholesterol. In both oospheres and oospores, acetate-1-14C was assimilated most readily into phospholipids, triacylglycerols, and unesterified fatty acids, and was incorporated preferentially into palmitic, palmitoleic, and oleic acids. Arachidonic-1-14C acid was incorporated by isolated oospheres into **eicosapentaenoic acid**, indicating that arachidonic acid is the immediate precursor of **eicosapentaenoic acid**.

L2 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1975:544583 CAPLUS
DOCUMENT NUMBER: 83:144583
TITLE: Lipid composition of maturing and elongate liverwort sporophytes
AUTHOR(S): Thomas, Robert J.
CORPORATE SOURCE: Thimann Lab., Univ. California, Santa Cruz, Calif., USA
SOURCE: Phytochemistry (1975), 14(3), 623-6
CODEN: PYTCAS
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The setae of *Lophocolea heterophylla* sporophytes undergo rapid cell elongation with no net loss of lipid. Glycerolipids and sterol esters are the predominant lipids present in unelongate setae. Phospho- and glycolipids increase dramatically with respect to total lipid during

elongation and thus reflect membrane increases. Unusual polyunsatd. fatty acids (arachidonic and eicosapentaenoic) are conspicuous constituents of these lipids.

L2 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1969:458172 CAPLUS
DOCUMENT NUMBER: 71:58172
TITLE: Fatty acids of some marine crustaceans
AUTHOR(S): Culkin, Frederick; Morris, Robert John
CORPORATE SOURCE: Nat. Inst. Oceanogr., Wormley, Engl.
SOURCE: Deep-Sea Res. Oceanogr. Abstr. (1969), 16(2), 109-16
CODEN: DROAAK
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The lipids of 1 species of epipelagic euphausiid and 6 species of mesopelagic decapods from the eastern North Atlantic consist mainly of triglyceride, with small amts. of mono- and diglyceride, sterol, **sterol ester**, and phospholipid. The generally low level of lipid (2.5% wet weight) suggests that lipids have no buoyancy function in these animals. Gas-liq. chromatog. showed that the fatty acid compn. of *Euphausia brevis* differed from that of the decapods in having much less octadecenoic acid (18:1) and more **eicosapentaenoic acid** (20:5) and docosahexaenoic acid (22:6). The principal differences in the fatty acid compn. of the decapods were in their contents of octadecenoic, eicosenoic (20:1) and docosenoic (22:1) acids, but no correlation was found between fatty acid compn. and species.

L2 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1967:74187 CAPLUS
DOCUMENT NUMBER: 66:74187
TITLE: Aliphatic wax alcohols and other lipids in atheromata and arterial tissues of cetaceans
AUTHOR(S): Hashimoto, Sam; Dayton, Seymour; Roberts, James C., Jr.
CORPORATE SOURCE: Wadsworth Hosp., Veterans Admin. Center, Los Angeles, Calif., USA
SOURCE: Comp. Biochem. Physiol. (1967), 20(3), 975-86
CODEN: CBCPAI
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Detailed lipid analyses were carried out on normal and atheromatous arterial tissue from a sperm whale (*Physeter macrocephalus*), a pilot whale (*Globicephalus melaena*), and a killer whale (*Orcinus orca*). Fatty acids from plasma and arterial tissues contained little linoleic acid (<4%) and a sizable concn. of **eicosapentaenoic acid**. Wax alcs. were present as esters and free alcs. in normal and atheromatous tissues. C16 and C18 wax alcs. predominated. Relative abundance of dominant esterified and free wax alcs. from the same tissue were similar to each other. Concns. of cholesterol and total lipid in plasma of the killer whale were 160 and 619 mg. %, resp. Ratio of high-d. lipoproteins (>1.063) to low-d. lipoprotein (<1.063) in plasma-serum mixt. was 4:1. In the aortic lesions from the sperm whale and pilot whale, lipid pattern and fatty acid compn. of lipid components were virtually identical with those of their underlying and surrounding tissues. In the killer whale a fibrous aortic plaque contained a higher concn. of wax + **sterol ester** than normal aortic tissue. A much larger difference in the concn. of total lipid and of wax + **sterol ester** was seen in a fatty coronary atheroma of the killer whale as opposed to normal coronary tissue. Plasma from this killer whale was similar to fibrous aortic plaque, normal aortic tissue, and fatty coronary atheroma in the relative abundances of most of the fatty acids of wax + **sterol ester**. This result suggested plasma as a principal source of these arterial tissue wax + sterol esters.

=> s 11 and docosahexaenoic acid
6551 DOCOSAHEXAENOIC
3454055 ACID
5936 DOCOSAHEXAENOIC ACID
(DOCOSAHEXAENOIC(W)ACID)
L3 5 L1 AND DOCOSAHEXAENOIC ACID

=> d 13 1-5 ibib hitstr abs

L3 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:416035 CAPLUS
DOCUMENT NUMBER: 131:243460
TITLE: Enzymatic synthesis of steryl esters of
polyunsaturated fatty acids
AUTHOR(S): Shimada, Yuji; Hirota, Yoshinori; Baba, Takashi;
Sugihara, Akio; Moriyama, Shigeru; Tominaga, Yoshio;
Terai, Tadamasa
CORPORATE SOURCE: Osaka Municipal Technical Research Institute, Osaka,
536-8553, Japan
SOURCE: Journal of the American Oil Chemists' Society (1999),
76(6), 713-716
CODEN: JAOCA7; ISSN: 0003-021X
PUBLISHER: AOCS Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Steryl esters of long-chain fatty acids have water-holding properties, and polyunsatd. fatty acids (PUFA) have various physiol. functions. Because steryl ester of PUFA can be expected to have both features, we attempted to synthesize steryl esters of PUFA by enzymic methods. Among lipases used, Pseudomonas lipase was the most effective for the synthesis of cholesteryl docosahexaenoate. When a mixt. of cholesterol/**docosahexaenoic acid** (3:1, mol/mol), 30% water, and 3000 units/g of lipase was stirred at 40.degree.C for 24 h, the esterification extent attained 89.5%. Under the same reaction conditions, cholesterol, cholestanol, and sitosterol were also esterified efficiently with docosahexaenoic, eicosapentaenoic, arachidonic, and .gamma.-linolenic acids.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1994:159267 CAPLUS
DOCUMENT NUMBER: 120:159267
TITLE: Biochemical composition and fatty acid content of fertilized eggs, yolk sac stage larvae and first-feeding larvae of the Senegal sole (*Solea senegalensis* Kaup)
AUTHOR(S): Vazquez, R.; Gonzalez, S.; Rodriguez, A.; Mourente, G.
CORPORATE SOURCE: Centro de Investigacion y Cultivo de Especies Marinas (CICEM), El Toruno, PEMARES, El Puerto de Santa Maria (Cadiz), Spain
SOURCE: Aquaculture (1994), 119(2-3), 273-86
CODEN: AQCLAL; ISSN: 0044-8486
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Changes in biochem. compn. and fatty acid content were investigated during the early development of the Senegal sole (*S. senegalensis*). The pattern of lipid utilization in this rapidly developing marine flatfish species favored neutral lipids, particularly triacylglycerol and **sterol ester** fractions. Fertilized eggs and yolk sac larvae were richer in neutral lipids, which decreased during development. In contrast, a

significant increase occurred to proportions of phospholipids, mainly due to significant increases in minor classes such as phosphatidylserine, phosphatidylinositol, and phosphatidic acid/cardiophilin, whereas major phospholipid classes such as phosphatidylcholine and phosphatidylethanolamine remained const. during development. Saturated and monounsaturated fatty acids such as 16:0, 16:1n-7, 18:1n-9, and 18:1n-7 were utilized to a greater extent than polyunsaturated fatty acids as energy substrates. A requirement for long-chain polyunsaturated fatty acids such as eicosapentaenoic acid (20:5n-3) and **docosahexaenoic acid** (22:6n-3) is likely since no evidence of bioconversion from their precursors was found. A requirement for arachidonic acid (20:4n-6) is also suggested as it is specifically retained throughout development.

L3 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1987:174778 CAPLUS

DOCUMENT NUMBER: 106:174778

TITLE: Cod lipids, solvent systems and the effect of fatty acid chain length and unsaturation on lipid class analysis by Iatroscan TLC-FID

AUTHOR(S): Ohshima, T.; Ratnayake, W. M. N.; Ackman, R. G.

CORPORATE SOURCE: Canadian Inst. Fish. Technol., Tech. Univ. Nova Scotia, Halifax, NS, B3J 2X4, Can.

SOURCE: JAOCS, J. Am. Oil Chem. Soc. (1987), 64(2), 219-23
CODEN: JJASDH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The chromatog. behavior of mol. species of free fatty acids, triglycerides, sterol esters and wax esters on Chromarods-SII was investigated in 4 developing solvent systems of different polarities. Mol. species within a lipid class are partially sepd. according to the chain length and degree of unsatn. of the acyl groups. The sepn. is more affected by the degree of unsatn. than the chain length, esp. in nonpolar solvent systems. In polar solvent systems the sepn. within a lipid class is less efficient; a slight sepn. according to the chain length was obsd., and the degree of unsatn. had little or no influence. The partial sepn. of mol. species within a class leads to the superimposing of certain lipid classes, for example glyceryl ethers and highly unsatd. fatty acids of marine origin. This poses a potential problem in identification of Iatroscan peaks. However, with totally hydrogenated marine lipid samples a complete sepn. of the lipid classes was achieved when developed in a nonpolar solvent system. It is proposed that 2 kinds of authentic stds. varying in the degree of unsatn. and chain length should be used for the identification of the peaks of natural lipid samples of unknown compn., and that total hydrogenation be applied to improve sepn. and ensure sample stability, and probably to improve quantitation accuracy.

L3 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1969:458172 CAPLUS

DOCUMENT NUMBER: 71:58172

TITLE: Fatty acids of some marine crustaceans

AUTHOR(S): Culkin, Frederick; Morris, Robert John

CORPORATE SOURCE: Nat. Inst. Oceanogr., Wormley, Engl.

SOURCE: Deep-Sea Res. Oceanogr. Abstr. (1969), 16(2), 109-16
CODEN: DROAAK

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The lipids of 1 species of epipelagic euphausiid and 6 species of mesopelagic decapods from the eastern North Atlantic consist mainly of triglyceride, with small amts. of mono- and diglyceride, sterol, **sterol ester**, and phospholipid. The generally low level of lipid (2.5% wet weight) suggests that lipids have no buoyancy function in these animals. Gas-liq. chromatog. showed that the fatty acid compn. of Euphausia brevis differed from that of the decapods in having much less

octadecenoic acid (18:1) and more eicosapentaenoic acid (20:5) and **docosahexaenoic acid** (22:6). The principal differences in the fatty acid compn. of the decapods were in their contents of octadecenoic, eicosenoic (20:1) and docosenoic (22:1) acids, but no correlation was found between fatty acid compn. and species.

L3 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1963:28835 CAPLUS

DOCUMENT NUMBER: 58:28835

ORIGINAL REFERENCE NO.: 58:4869f-h

TITLE: The influence of exogenous cholesterol on hepatic lipid composition of the rat

AUTHOR(S): Morin, Robert J.; Bernick, Sol; Mead, James F.; Alfin-Slater, Roslyn B.

CORPORATE SOURCE: Univ. of California, Los Angeles

SOURCE: J. Lipid Res. (1962), 3, 432-8

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB Rats were fed diets contg. cottonseed oil and (or) cholesterol (I), cholic acid, Me esters of long-chain fatty acids, and tocopherol. The degree of deposition of liver sterol esters was related to the availability of dietary fatty acids for esterification of I. No differences were noted in **sterol ester** deposition among groups fed I with supplements of Me esters of fatty acids of varying unsatn. Feeding I accentuated the increase in monoenoic acids and the decrease in polyunsatd. acids characteristic of essential fatty acid deficiency. Two eicosatrienoic acids were identified in the phospholipids; 5,8,11-eicosatrienoic, related to essential fatty acid deficiency, and the 8,11,14 isomer, which appeared to be an intermediate in the conversion of linoleate to arachidonate.

=> s l1 and stearidonic acid

173 STEARIDONIC

3454055 ACID

164 STEARIDONIC ACID

(STEARIDONIC(W)ACID)

L4 0 L1 AND STEARIDONIC ACID

=> s l1 omega-3 fatty acid

MISSING OPERATOR L1 OMEGA-3

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s l1 and omega-3 fatty acid

149227 OMEGA

5583719 3

308317 FATTY

3454055 ACID

601 OMEGA-3 FATTY ACID

(OMEGA(W) 3(W) FATTY(W)ACID)

L5 0 L1 AND OMEGA-3 FATTY ACID

=> s omega-3 fatty acid ester

149227 OMEGA

5583719 3

308317 FATTY

3454055 ACID

447887 ESTER

L6 1 OMEGA-3 FATTY ACID ESTER

(OMEGA(W) 3(W) FATTY(W)ACID(W)ESTER)

=> d l6 ibib hitstr abs

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1987:561702 CAPLUS
 DOCUMENT NUMBER: 107:161702
 TITLE: Rapid acting intravenous emulsions of omega-3 fatty acid esters
 INVENTOR(S): Ward, Michael V.; Cotter, Richard
 PATENT ASSIGNEE(S): Baxter Travenol Laboratories, Inc., USA
 SOURCE: PCT Int. Appl., 26 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8702247	A1	19870423	WO 1986-US2066	19861002
W: JP				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
US 4678808	A	19870707	US 1985-787741	19851015
EP 241533	A1	19871021	EP 1986-906541	19861002
EP 241533	B1	19921223		
R: BE, CH, DE, FR, GB, LI, SE				
JP 63501081	T2	19880421	JP 1986-505580	19861002
CA 1282008	A1	19910326	CA 1986-520411	19861014
ZA 8607806	A	19870624	ZA 1986-7806	19861015
US 5461037	A	19951024	US 1994-213451	19940314
US 5760020	A	19980602	US 1996-726369	19961004
PRIORITY APPLN. INFO.:			US 1985-787741	19851015
			WO 1986-US2066	19861002
			US 1987-41165	19870422
			US 1989-348190	19890508
			US 1990-503068	19900329
			US 1992-981934	19921123
			US 1994-213451	19940314
			US 1995-467595	19950606

AB Lipid emulsions administered parenterally (i.e., esp. for treatment of thrombotic conditions) comprise an emulsifier, water, and a marine oil-contg. .gtoreq.1 .omega.-3 fatty acid ester, in which the concn. of free acid is <5 mequiv/L. The emulsions contain 5-50 wt.% marine oil, which contains .gtoreq.30 wt.% .omega.-3 fatty acid glycerides; emulsifiers are chosen from egg yolk phosphatides, soy phosphatides, egg yolk lecithin, and soy lecithin. I.v. infusion of an emulsion contg. 10% marine oil (contg. 15-30 wt.% eicosapentaenoic acid glyceride (I) and 15-35 wt.% docosahexaenoic acid glyceride) over an 8-h period (at 40 mg I/kg-h) decreased platelet functions and increased bleeding times prior to clotting.

=> s sterol eicosapentaenoic acid ester
 20272 STEROL
 6222 EICOSAPENTAENOIC
 3454055 ACID
 447887 ESTER

L7 0 STEROL EICOSAPENTAENOIC ACID ESTER
 (STEROL(W)EICOSAPENTAENOIC(W)ACID(W)ESTER)

=> s sterol unsaturated fatty acid ester
 20272 STEROL
 49277 UNSATURATED
 308317 FATTY

3454055 ACID

447887 ESTER

L8

0 STEROL UNSATURATED FATTY ACID ESTER

(STEROL (W) UNSATURATED (W) FATTY (W) ACID (W) ESTER)

=> s sterol ester
20272 STEROL
447887 ESTER
L9 538 STEROL ESTER
(STEROL(W)ESTER)

=> s l1 and food additive
250937 FOOD
156817 ADDITIVE
4395 FOOD ADDITIVE
(FOOD(W)ADDITIVE)
L10 2 L1 AND FOOD ADDITIVE

=> d l10 1-2 ibib hitstr abs

L10 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:12195 CAPLUS
DOCUMENT NUMBER: 134:70652
TITLE: Use of nanoscale sterols and sterol esters
INVENTOR(S): Kropf, Christian; Fabry, Bernd; Biermann, Manfred;
Dolhaine, Hans; Christophliemk, Peter; Schroder,
Christine
PATENT ASSIGNEE(S): Cognis Deutschland G.m.b.H., Germany
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001000046	A1	20010104	WO 2000-EP5537	20000616
W:		AE, AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CR, CU, CZ, DM, EE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
RW:		GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
EP 1189522	A1	20020327	EP 2000-938794	20000616
R:		AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO		
US 6352737	B1	20020305	US 2000-597499	20000620
NO 2001006342	A	20011221	NO 2001-6342	20011221
PRIORITY APPLN. INFO.:			US 1999-141154P P	19990625
			WO 2000-EP5537 W	20000616

AB The invention relates to the use of nanoscale sterols and/or sterol esters with particle diams. between 10 and 300 nm as food additives and as active agents for producing hypocholesteremic products. The invention is characterized by the particular fineness of the particles compared to sterols and sterol esters of the prior art. This results in quicker resorption with oral administration.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:404806 CAPLUS
DOCUMENT NUMBER: 131:49483
TITLE: Sterol esters as food additives
INVENTOR(S): Milstein, Norman; Biermann, Manfred; Leidl, Peter; Von

PATENT ASSIGNEE(S): Kreis, Rainer
 SOURCE: Henkel Corporation, USA
 PCT Int. Appl., 38 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9930569	A1	19990624	WO 1998-US26212	19981215
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6394230	B1	20020528	US 1998-83584	19980521
CA 2314991	AA	19990624	CA 1998-2314991	19981215
AU 9918139	A1	19990705	AU 1999-18139	19981215
AU 744462	B2	20020221		
BR 9813569	A	20001010	BR 1998-13569	19981215
EP 1045641	A1	20001025	EP 1998-963027	19981215
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
FI 2000001412	A	20000614	FI 2000-1412	20000614
NO 2000003053	A	20000614	NO 2000-3053	20000614
PRIORITY APPLN. INFO.:			US 1997-69790P	P 19971216
			US 1998-72434	A 19980504
			US 1998-83584	A 19980521
			WO 1998-US26212	W 19981215

OTHER SOURCE(S): MARPAT 131:49483

AB A **food additive** useful for lowering serum cholesterol
 in humans contains a sterol or stanol ester of a fatty acid or a
 dicarboxylic acid ester of a sterol or stanol made by reacting a sterol,
 stanol and a carboxylic acid in the presence of an effective amt. of a
 catalyst selected from the group consisting of calcium oxide, calcium
 hydroxide, a calcium salt of a carboxylic acid, magnesium hydroxide and
 combinations thereof described herein.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 19 and food additive

250937 FOOD

156817 ADDITIVE

4395 FOOD ADDITIVE

(FOOD(W)ADDITIVE)

L11 2 L9 AND FOOD ADDITIVE

=> s 19 and nutritional supplement

45831 NUTRITIONAL

26183 SUPPLEMENT

473 NUTRITIONAL SUPPLEMENT

(NUTRITIONAL(W)SUPPLEMENT)

L12 0 L9 AND NUTRITIONAL SUPPLEMENT

=> s 11 and nutritional supplement

45831 NUTRITIONAL

26183 SUPPLEMENT

473 NUTRITIONAL SUPPLEMENT
(NUTRITIONAL(W) SUPPLEMENT)
0 L1 AND NUTRITIONAL SUPPLEMENT

L13

=>

=> s 19 and fish oil
 113405 FISH
 634893 OIL
 7216 FISH OIL
 (FISH(W)OIL)
 L15 1 L9 AND FISH OIL

=> d l15 ibib hitstr abs

L15 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1999:722849 CAPLUS
 DOCUMENT NUMBER: 131:309994
 TITLE: Phytosterol fatty acid ester compositions for food use
 INVENTOR(S): Wester, Ingmar; Ekblom, Jari
 PATENT ASSIGNEE(S): Raisio Benecol Oy, Finland
 SOURCE: PCT Int. Appl., 33 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9956558	A1	19991111	WO 1999-FI379	19990506
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FI 9801011	A	19991107	FI 1998-1011	19980506
AU 9939349	A1	19991123	AU 1999-39349	19990506
EP 1075191	A1	20010214	EP 1999-922220	19990506
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9910248	A	20011002	BR 1999-10248	19990506
JP 2002513079	T2	20020508	JP 2000-546604	19990506
PRIORITY APPLN. INFO.: FI 1998-1011 A 19980506				
WO 1999-FI379 W 19990506				

AB A sterol and(or) stanol (preferably sitostanol and campestanol) fatty acid ester compn. comprises a blend of less than 5-7% satd. fatty acids and more than 50% polyunsatd. fatty acids (PUFA). The esters are produced preferentially with fatty acids from high-PUFA vegetable oils, but also **fish oil**-derived PUFA or blends of vegetable and **fish oil** PUFA may be used. The sterol and(or) stanol esters are preferentially produced by catalytic esterification. Uses in salad oil, cooking oil, etc., are indicated. Thus, stanol fatty acid esters based on soybean oil fatty acids are obtained by first hydrogenating a tall oil sterol blend, blending the stanols with soybean oil Me esters, and esterifying in the presence of sodium ethoxide catalyst.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

FILE 'CAPLUS' ENTERED AT 17:12:40 ON 17 OCT 2002

L16 7216 S FISH OIL
L17 38 S L16 AND UNSATURATED FATTY ACID
L18 5 S L17 AND FOOD
L19 1 S L17 AND CHOLESTEROL
L20 37 S L16 AND STEROL
L21 6 S L20 AND FOOD
L22 22 S L20 AND CHOLESTEROL

=> d l19 ibib abs hitstr

L19 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:173791 CAPLUS

DOCUMENT NUMBER: 126:242751

TITLE: Preliminary studies on the extraction and purification
of poly-**unsaturated fatty acid** from fresh-water **fish oil** and its medicinal quality standard

AUTHOR(S): Zhou, Gannan; Zhang, Kangxuan; Cai, Ming; Hu, Zhihua
CORPORATE SOURCE: Inst. of Chinese Materia Medica, China Pharmaceutical
Univ., Nanjing, 210038, Peop. Rep. China

SOURCE: Zhongcaoyao (1996), 27(11), 655-657

CODEN: CTYAD8; ISSN: 0253-2670

PUBLISHER: Guojia Yiyao Guanliju Tianjin Yaowu Yanjiuso

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB Methods for extn. and purifn. of poly-unsatd. fatty acids from visceral
oil of fresh-water fish bream, grass carp and silver carp were optimized
by orthogonal designed expts. The fatty acid content of fresh-water fish
was lower than the sea fish, but the quality std. could be established by
referring to the quality std. of morrhuic acid. Animal expt. demonstrated
effective decrease of serum **cholesterol** in mice models.

=>

=> d l22 1-22 ibib hitstr abs

L22 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:757848 CAPLUS

DOCUMENT NUMBER: 135:303132

TITLE: Removal of sterols from fats and oils by using
phospholipids

INVENTOR(S): Kodali, Dharma R.

PATENT ASSIGNEE(S): Cargill, Incorporated, USA

SOURCE: U.S., 12 pp., Cont.-in-part of U.S. Ser. No. 264,763,
abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6303803	B1	20011016	US 2000-557367	20000425
US 5880300	A	19990309	US 1997-791915	19970131
PRIORITY APPLN. INFO.:			US 1997-791915	A1 19970131
			US 1999-264763	B2 19990309

AB A method for reducing the **sterol** (e.g., **cholesterol**)
content of **sterol**-contg. substances such as fats and oils is an
efficient and cost effective process based on the affinity of
cholesterol and other sterols for amphipathic mols. that form

hydrophobic, fluid bilayers, such as phospholipid bilayers. Aggregates of amphipathic mols. are contacted with, for example, a **sterol** -contg. fat or oil in an aq. environment and then mixed. Following adequate mixing, the **sterol**-reduced fat or oil is sepd. from the aq. sepn. mixt. Alternatively, the correspondingly **sterol** -enriched fraction also may be isolated from the aq. sepn. mixt. Thus, distd. water and soy lecithin are added simultaneously to liq. beef tallow to remove **cholesterol**.

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:319732 CAPLUS

DOCUMENT NUMBER: 134:316161

TITLE: **Cholesterol** lowering and blood lipids
lowering composition based on phytosterols

INVENTOR(S): Sjöberg, Kjell

PATENT ASSIGNEE(S): Triple Crown AB, Swed.

SOURCE: PCT Int. Appl., 11 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001030359	A1	20010503	WO 2000-SE2100	20001027
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
SE 9903915	A	20010430	SE 1999-3915	19991029
SE 517769	C2	20020716		
EP 1227816	A1	20020807	EP 2000-975114	20001027
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL			

PRIORITY APPLN. INFO.: SE 1999-3915 A 19991029

WO 2000-SE2100 W 20001027

AB The present invention is a compn. contg. **cholesterol**- and blood lipids-lowering components such as phytosterols in combination with unsatd. fatty acids or esters, short chain fatty acids or esters and/or hydrolyzed flour contg. .beta.-glucan and amyloextrin; food contg. such a compn. and a method for manufg. of such a compn. are also described. For example, 500 g of **fish oil**, 100 g of short-chain fatty acids, 150 g of glycerol, and 300 g sterols were mixed and transesterified. The compn. obtained can be used for mixing into different food, encapsulated or tableted.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:108136 CAPLUS

DOCUMENT NUMBER: 132:132345

TITLE: Eicosapentaenoate and others as hypolipidemics

INVENTOR(S): Noguchi, Yasuhisa; Tanaka, Yukihisa

PATENT ASSIGNEE(S): Nippon Oil and Fats Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000044470	A2	20000215	JP 1998-220192	19980804

AB The title hypolipidemics contain the A component, eicosapentaenoic acid and the docosahexaenoic acid or their ester derivs. from **fish oil** or liver oil contg. vitamin A esters and the B component, polyene phosphatidyl choline, soy **sterol**, non-saponificated soybean oil, riboflavin, riboflavin butyrate, panthenol, and/or pantethine. The effects of the title hypolipidemics on blood **cholesterol** and triglycerides were tested in animals.

L22 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1999:722849 CAPLUS
 DOCUMENT NUMBER: 131:309994
 TITLE: Phytosterol fatty acid ester compositions for food use
 INVENTOR(S): Wester, Ingmar; Ekblom, Jari
 PATENT ASSIGNEE(S): Raisio Benecol Oy, Finland
 SOURCE: PCT Int. Appl., 33 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9956558	A1	19991111	WO 1999-FI379	19990506
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FI 9801011	A	19991107	FI 1998-1011	19980506
AU 9939349	A1	19991123	AU 1999-39349	19990506
EP 1075191	A1	20010214	EP 1999-922220	19990506
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9910248	A	20011002	BR 1999-10248	19990506
JP 2002513079	T2	20020508	JP 2000-546604	19990506
PRIORITY APPLN. INFO.:			FI 1998-1011	A 19980506
			WO 1999-FI379	W 19990506

AB A **sterol** and(or) stanol (preferably sitostanol and campestanol) fatty acid ester compn. comprises a blend of less than 5-7% satd. fatty acids and more than 50% polyunsatd. fatty acids (PUFA). The esters are produced preferentially with fatty acids from high-PUFA vegetable oils, but also **fish oil**-derived PUFA or blends of vegetable and **fish oil** PUFA may be used. The **sterol** and(or) stanol esters are preferentially produced by catalytic esterification. Uses in salad oil, cooking oil, etc., are indicated. Thus, stanol fatty acid esters based on soybean oil fatty acids are obtained by first hydrogenating a tall oil **sterol** blend, blending the stanols with soybean oil Me esters, and esterifying in the presence of sodium ethoxide catalyst.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:601246 CAPLUS

DOCUMENT NUMBER: 131:285847

TITLE: **Fish oil** feeding decreases mature
sterol regulatory element-binding protein 1
(SREBP-1) by down-regulation of SREBP-1c mRNA in mouse
liver. A possible mechanism for down-regulation of
lipogenic enzyme mRNAs

AUTHOR(S): Kim, Hyoun-Ju; Takahashi, Mayumi; Ezaki, Osamu

CORPORATE SOURCE: Division of Clinical Nutrition, National Institute of
Health and Nutrition, Tokyo, 162-8636, Japan

SOURCE: Journal of Biological Chemistry (1999), 274(36),
25892-25898

CODEN: JBCHA3; ISSN: 0021-9258

PUBLISHER: American Society for Biochemistry and Molecular
Biology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Dietary **fish oil** induces hepatic peroxisomal and
microsomal fatty acid oxidn. by peroxisome proliferator-activator receptor
.alpha. activation, whereas it down-regulates lipogenic gene expression by
unknown mechanism(s). Because **sterol** regulatory element-binding
proteins (SREBPs) up-regulated lipogenic genes, investigation was made on
the effects of **fish oil** feeding on SREBPs and
sterol regulatory element (SRE)-dependent gene expression in
C57BL/6J mice. Three forms of SREBPs, SREBP-1a, -1c, and -2, are
expressed in liver, and their truncated mature forms activate
transcription of **sterol**-regulated genes. C57BL/6J mice were
divided into three groups; the first group was given a high carbohydrate
diet, and the other two groups were given a high fat diet (60% of total
energy), with the fat in the form of safflower oil or **fish
oil**, for 5 mo. Compared with safflower oil feeding, **fish
oil** feeding decreased triglyceride and **cholesterol**
concns. in liver. There were no differences in amt. of SREBP-1 and -2 in
both precursor and mature forms between carbohydrate- and safflower
oil-fed mice. However, compared with safflower oil feeding, **fish
oil** feeding reduced the amts. of precursor SREBP-1 in membrane
fraction by 90% and of mature SREBP-1 in liver nuclei by 57%.
Fish oil feeding also reduced precursor SREBP-2 by 65%
but did not alter the amt. of mature SREBP-2. Compared with safflower oil
feeding, **fish oil** feeding decreased liver SREBP-1c
mRNA level by 86% but did not alter SERBP-1a mRNA. Consistent with
decrease of mature SREBP-1, compared with safflower oil feeding,
fish oil feeding down-regulated the expression of liver
SRE-dependent genes, such as low d. lipoprotein receptor,
3-hydroxy-3-methylglutaryl-CoA reductase, 3-hydroxy-3-methylglutaryl-CoA
synthase, fatty acid synthase, acetyl-CoA carboxylase, and stearoyl-CoA
desaturase-1. These data suggested that in liver, **fish
oil** feeding down-regulates the mature form of SREBP-1 by
decreasing SREBP-1c mRNA expression, with corresponding decreases of mRNAs
of cholesterologenic and lipogenic enzymes.

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:543135 CAPLUS

DOCUMENT NUMBER: 129:174931

TITLE: Phospholipid-based removal of sterols from fats and
oil

INVENTOR(S): Kodali, Dharma R.

PATENT ASSIGNEE(S): Cargill, Incorporated, USA
 SOURCE: PCT Int. Appl., 33 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9833875	A1	19980806	WO 1998-US748	19980114
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5880300	A	19990309	US 1997-791915	19970131
AU 9861320	A1	19980825	AU 1998-61320	19980114
AU 730033	B2	20010222		
EP 975715	A1	20000202	EP 1998-905959	19980114
R: BE, DE, DK, ES, FR, NL				
BR 9807527	A	20000314	BR 1998-7527	19980114
JP 2001509836	T2	20010724	JP 1998-532914	19980114
CN 1083482	B	20020424	CN 1998-802080	19980114
PRIORITY APPLN. INFO.:				
			US 1997-791915	A 19970131
			WO 1998-US748	W 19980114

AB Sterols (including **cholesterol**) in fats and oils are removed in an efficient and cost effective process based on phospholipid bilayers. Phospholipid aggregates are contacted with a **sterol**-contg. fat or oil in an aq. environment and then mixed. The **sterol**-reduced fat or oil is then sepd. from the aq. sepn. mixt. The corresponding **sterol**-enriched phospholipid may also be isolated from the aq. sepn. mixt. Thus, soybean lecithin and distd. water (lecithin-water, 1:2) are added simultaneously to beef tallow (lecithin-tallow, 1:5), the samples are subjected to vigorous stirring for 1 h at ambient temp., and finally they are centrifuged (1000 .times.g, 10 min) to remove about 50% of the **cholesterol**.

L22 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:541947 CAPLUS
 DOCUMENT NUMBER: 129:289552
 TITLE: Fecal **sterol** excretion in rats fed diets enriched in linoleic, .alpha.-linolenic, and eicosapentaenoic plus docosahexaenoic acid
 AUTHOR(S): Garg, Manohar L.; Blake, Robert J.; Jansen, Margje C. J. F.
 CORPORATE SOURCE: Discipline of Nutrition and Dietetics, Faculty of Medicine and Health Sciences, University of Newcastle, Callaghan, NSW 2308, Australia
 SOURCE: Journal of Clinical Biochemistry and Nutrition (1998), 24(1), 23-34
 CODEN: JCBNER; ISSN: 0912-0009
 PUBLISHER: Institute of Applied Biochemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The effects of feeding rats diets enriched in linoleic (LA), .alpha.-linolenic (ALA), and eicosapentaenoic acid (EPA) + docosahexaenoic acid (DHA) on blood plasma and liver **cholesterol** and on fecal excretion of neutral sterols and bile acids were examd. in 28 weanling male Sprague-Dawley rats divided into 4 groups. The rats were fed

nutritionally adequate diets contg. 20% fat and the same levels of energy and **cholesterol** for 4 wk. The diets contained high amts. of beef tallow, sunflower oil, linseed oil, or **fish oil** to achieve diets rich in satd. fats, LA, ALA, or EPA + DHA, resp. Rat feces were collected during the last 3 days of the 4th week and blood and livers were obtained at the end of the feeding period. The fecal **sterol** excretion (neutral sterols plus bile acids) was higher in rats fed LA- and the ALA-rich diets compared to rats fed the satd. fatty acid-rich diet. The higher **sterol** excretion rate in the LA diet group was primarily due to higher excretion of plant sterols, whereas **cholesterol** excretion was rather lower than in rats fed the satd. fatty acid diet. The higher **sterol** excretion rate in the ALA diet group was mainly due to higher excretion of bile acids, esp. lithocholic and .beta.-muricholic acids. Feeding of the LA-rich diet had no effect on bile acid excretion. EPA + DHA at the levels fed had no effect on blood serum and liver **cholesterol** or on fecal excretion of total neutral sterols or bile acids, but increased the coprostanol excretion compared with that in the other groups. Thus, dietary linoleic acid decreases the **cholesterol** excretion. This may be partly responsible for the **cholesterol** accumulation in the hepatic tissue. The n-3 fatty acids of plant (ALA) and marine (EPA + DHA) origin increase the fecal **cholesterol** excretion via different mechanisms, i.e. by increased conversion of **cholesterol** into bile acids.

L22 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:217750 CAPLUS

DOCUMENT NUMBER: 128:243320

TITLE: Effect of dietary **fish oil** on fecal bile acid and neutral **sterol** excretion in healthy volunteers

AUTHOR(S): Bartram, H. P.; Gostner, A.; Kelber, E.; Dusel, G.; Scheppach, W.; Kasper, H.

CORPORATE SOURCE: Dep. Medicine, Univ. Wuerzburg, Wuerzburg, D-97080, Germany

SOURCE: Zeitschrift fuer Ernaehrungswissenschaft (1998), 37(Suppl. 1), 139-141

CODEN: ZERNAL; ISSN: 0044-264X

PUBLISHER: Dr. Dietrich Steinkopff Verlag GmbH & Co. KG

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effects of dietary **fish oil** (FO) and corn oil (CO) on the fecal excretion of secondary bile acids (deoxy- and lithocholic acid) and certain neutral sterols (4-cholesten-3-one and Sa-cholestan-3-one) were investigated in healthy consuming a low fat (30% of energy) controlled basal diet. After 4 wk of FO supplementation (4.4 g .omega.-3 fatty acids/day), daily excretion of lithocholic acid showed a trend to lower values compared to CO consumption, whereas other bile acids were not different during both study periods. Daily excretion of the putative colon carcinogen 4-cholesten-3-one was lower in the FO compared to the CO period. This may be another biochem. mechanism by which FO exerts its protective effect on colon cancer development.

L22 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1993:559068 CAPLUS

DOCUMENT NUMBER: 119:159068

TITLE: **Cholesterol** and polyunsaturated acid enriched diet: Effect on kinetics of the acrosome reaction in rabbit spermatozoa

AUTHOR(S): Diaz-Fontdevila, Marina; Bustos-Obregon, Eduardo

CORPORATE SOURCE: Fac. Med., Univ. Nac. Tucuman, Tucuman, Argent.

SOURCE: Molecular Reproduction and Development (1993), 35(2), 176-80

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB The effects of **cholesterol**-, **cholesterol**- and **fish oil** (FO) polyunsatd. acid-, and polyunsatd. acid-enriched diets on the acrosome reaction (AR) were examd. in New Zealand White rabbit spermatozoa. Male rabbits fed with **cholesterol** alone or **cholesterol** with FO increased their **cholesterol** and LDL-**cholesterol** serum levels after 15 days of diet. Ten semen samples were obtained after 2 mo of diet. Hypercholesterolemia and hypertriglyceridemia in male rabbits produced a decreased capacity of sperm AR after 4 h (0%, 0%, and 60% lower than the control), 6 h (0%, 68%, and 44%), or 8 h (58%, 52%, and 32%) of incubation in capacitating medium. Another set of expts. were made with 80 .mu.g lysophosphatidylcholine/mL and the same pattern of AR was seen. Nevertheless, the high **cholesterol** and total lipids levels in serum did not affect the **cholesterol** levels in seminal plasma (SP) but affected the SP total lipids. The diminished capacity of rabbit sperm to undergo the AR was not reversed by in vitro incubation with the Shinitzky medium for **cholesterol** depletion. These results indirectly suggest that the **cholesterol**/phospholipid ratio in hypercholesterolemic sperm is similar to that of controls and are in agreement with preliminary studies that evidenced the same **cholesterol**/phospholipid ratio in rabbit sperm from hypercholesterolemic animals than from controls. These findings and the higher **sterol**-filipin complex in the acrosomal membrane of hypercholesterolemic animals compared to controls reported by M. Diaz-Fontdevila et al. (1992) suggest that in this study different sperm membrane lipid domains induced by hypercholesterolemia are the cause of the AR kinetic modification.

L22 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1992:611489 CAPLUS

DOCUMENT NUMBER: 117:211489

TITLE: Dose-response relationships between dietary (n-3) fatty acids and plasma and tissue lipids, steroid excretion and urinary malondialdehyde in rats

AUTHOR(S): De Schrijver, Remi; Vermeulen, Daniel; Daems, Veerle
CORPORATE SOURCE: Lab. Nutr. Cathol., Univ. Leuven, Louvain, B-3001, Belg.

SOURCE: Journal of Nutrition (1992), 122(10), 1979-87

CODEN: JONUAI; ISSN: 0022-3166

DOCUMENT TYPE: Journal

LANGUAGE: English

AB For a 28-day exptl. period, rats were fed a nonpurified, cereal-based diet contg. 9.1% supplemental beef tallow or **fish oil** or 1 of the following beef tallow:**fish oil** blends: 95:5, 90:10; 80:20, and 50:50. All diets provided 21.3-22.7 g linoleic acid/kg. Higher **fish oil** intake was paralleled by elevated incorporation of long-chain (n-3) fatty acids in plasma total lipid, mainly at the expense of arachidonic acid. Significant inverse relations were found between plasma total (n-3) fatty acid concn. and plasma triglyceride, **cholesterol**, or free fatty acid concns. **Fish oil** intake did not lead to a shift of triglycerides or **cholesterol** from the plasma to the tissues (liver, heart, kidneys). Reduced plasma **cholesterol** concns. in the **fish oil**-fed rats could not be explained by higher fecal excretion of neutral sterols and bile acids. In vivo lipid peroxidn., assessed by urinary malondialdehyde excretion, was enhanced when diets contg. >1.8% **fish oil** were fed.

L22 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1992:213322 CAPLUS

L22 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1990:404892 CAPLUS

DOCUMENT NUMBER: 113:4892

TITLE: Quality evaluation of recent fat spreads for household use

AUTHOR(S): Okamoto, Takahisa; Maruyama, Takenori; Kanematsu, Hiromu; Niiya, Isao

CORPORATE SOURCE: Japan Inst. Oils Fats, Tokyo, 103, Japan

SOURCE: Yukagaku (1990), 39(4), 271-9

CODEN: YKGKAM; ISSN: 0513-398X

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB Low-calorie fat spreads, whose prodn. is rapidly increasing, were investigated by measuring various chem. and phys. parameters of 8 brands (7 vegetable oil type, 1 milk fat blend type 1) and 7 brands of seasoning fat spread (5 cheese-contg. type, 2 spice-contg. type). A brand of a vegetable oil type was shown to contain 39.4% lipids, meeting the international std. of "minarine". The energy of household fat spreads is 15-50% less than that of household margarine. All brands of fat spreads except 3 were fortified with retinol at the same level as household margarine. **Sterol**, tocopherol, and fatty acid analyses indicated that the vegetable oil type was made from a blend of high-linoleic acid vegetable oils only, but the spice-contg. type contained animal fat, probably hardened **fish oil**. Four brands of fat spreads appeared to contain palm oil at low levels, since trace amts. of tocotrienols were detected. The tocopherol content of the vegetable oil type was relatively high. The content of .alpha.-tocopherol was markedly higher than that in any other type. According to the curves of hardness index, oil-off values, and solid fat content (SFC) for the different types of fat spreads, the vegetable oil type tended to oil off with more difficulty and had higher SFC than high-linoleic acid soft margarine, although the hardness was almost the same. A similar trend was obsd. between each of the other types of fat spreads and ordinary soft margarine.

L22 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1989:153217 CAPLUS

DOCUMENT NUMBER: 110:153217

TITLE: Effect of dietary n-3 polyunsaturated fatty acids on **cholesterol** synthesis and degradation in rats of different ages

AUTHOR(S): Choi, Yong Soon; Goto, Shoichiro; Ikeda, Ikuo; Sugano, Michihiro

CORPORATE SOURCE: Sch. Agric., Kyushu Univ., Fukuoka, 812, Japan

SOURCE: Lipids (1989), 24(1), 45-50

CODEN: LPDSAP; ISSN: 0024-4201

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Male Sprague-Dawley rats 4 wk or 8 mo of age were fed purified diets contg. 10% fat, either as a blend of safflower oil and palm olein (polyunsatd. fatty acids, PUFA, 34%), a blend of linseed oil and palm olein (PUFA, 33%) or sardine oil (PUFA, 33%) for 4 wk. In other trials, **sterol** contents were made equiv. by supplementing **cholesterol** to a blend of corn oil and palm olein (PUFA, 30%) or phytosterol to sardine oil (PUFA, 30%). **Fish oil** was hypolipidemic in rats of different ages, but it tended to increase liver **cholesterol** in adult animals and this was not improved by the addn. of phytosterol. The age-dependent increase in liver **cholesterol** was not duplicated in rats fed a vegetable fat blend supplemented with **cholesterol**. At both ages, liver 3-hydroxy-3-methylglutaryl CoA reductase activity was lower in the sardine oil than in the other groups. There were no age- or diet-related

differences in the activity of liver **cholesterol** 7.alpha.-hydroxylase. Fecal steroid excretion was comparable in age-matched rats fed diets supplemented either with **cholesterol** or phytosterol. Sardine oil reduced the .DELTA.6-desaturase activity markedly as compared with linseed oil, and age-dependent redn. of the desaturase activity was obsd. in all dietary groups examd. Thus, there was a specific effect of **fish oil** on lipid metab.

L22 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1987:154995 CAPLUS

DOCUMENT NUMBER: 106:154995

TITLE: Raw materials used in the production of edible fats and a study of commercial products

AUTHOR(S): Carpio, Cecilia; Parreno, Miguel

CORPORATE SOURCE: Esc. Politec. Nac., Fac. Ing. Quim., Ecuador

SOURCE: Politecnica (1985), 10(4), 123-50

CODEN: POTQAY; ISSN: 0032-3055

DOCUMENT TYPE: Journal

LANGUAGE: Spanish

AB Comparative phys. and chem. analyses were made of an imported hog fat product (Choice White Grease, extensively used in Ecuador for the prodn. of edible fats) and various other animal fats (lard, organ fat, and bone fat of hogs; beef, lamb, and chicken fat; **fish oil**). The fatty acid compn. of the white grease was very similar to bone fat. **Cholesterol** [57-88-5], the only **sterol**, was present at unacceptably high levels for human consumption in the white grease and in **fish oil**. Nevertheless, of 8 com. samples of edible fat examd., compositional data suggested that 4 included **fish oil** and 3 contained the white grease.

L22 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1984:471295 CAPLUS

DOCUMENT NUMBER: 101:71295

TITLE: Fatty acid composition, trans fatty acid content and **sterol** content of Dutch margarines and other edible fats

AUTHOR(S): Katan, M. B.; Van de Bovenkamp, P.; Brussaard, J. H.

CORPORATE SOURCE: Vakgroep Hum. Voeding, Landbouwhogeschool, Wageningen, 6703 BC, Neth.

SOURCE: Voeding (1984), 45(4), 127-32

CODEN: VOEDAK; ISSN: 0042-7926

DOCUMENT TYPE: Journal

LANGUAGE: Dutch

AB The fatty acid compn. and **sterol** content of 56 Dutch brands of margarines, halvarines, butter, shortenings, and frying fats were detd. by gas-liq. chromatog. and IR spectrometry. Each brand was sampled 3 times over a year. Seasonal variability within a brand was small compared to the differences between types of product. Butter had the highest satd. fat and **cholesterol** content. Animal fat-contg. margarines and shortenings had a high content of satd. fatty acids, long-chain fatty acids, trans fatty acids, and **cholesterol**. Brick-type vegetable margarines and frying fats also had a high trans fatty acid content, .ltoreq.65 g/100 g. The trans fatty acids, long-chain fatty acids, and **cholesterol** in animal fat-contg. margarines are derived from hydrogenated **fish oil**. The effect of the various edible fats on the serum **cholesterol** concn. in man was highest for shortenings, followed in decreasing order by butter, frying fats, brick-type margarines contg. animal fat, and vegetable margarines. The effect of half-fat spreads, regular soft vegetable margarines, and highly polyunsatd. shortenings was more or less neutral. Finally, highly polyunsatd. soft margarines (diet margarines) had a distinctly **cholesterol**-lowering effect. Daily replacement of 50 g of animal fat-contg. margarines by margarines high in polyunsaturates would decrease

serum **cholesterol** by ~10%.

L22 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1984:155265 CAPLUS

DOCUMENT NUMBER: 100:155265

TITLE: Analysis of the **sterol** fraction of olive oil
in canned fish

AUTHOR(S): Paganuzzi, V.

CORPORATE SOURCE: Lab. Chim. Compartimentale Dogane, Genoa, Italy

SOURCE: Riv. Ital. Sostanze Grasse (1983), 60(3), 116-24

CODEN: RISGAD; ISSN: 0035-6808

DOCUMENT TYPE: Journal

LANGUAGE: Italian

AB The **sterol** fraction of several fish species (mackerel, sardine, tuna, and anchovy) was analyzed by gas chromatog. as trimethylsilyl derivs. using SE 30 and OX 17 as stationary phases, in order to study possible interference with olive oil sterols. The main interference was produced by 24-methylenecholesterol [474-63-5], whose relative retention time was dose to that of campesterol [474-62-4] with both SE 30 and OX 17. 24-Methylene **cholesterol** from fish could cause a decrease in apparent .beta.-sitosterol [83-46-5] (.beta.-sitosterol + .DELTA.5-avenasterol [18472-36-1]) content in olive oil in canned fish. This interference could be eliminated by TLC of **sterol** acetyl derivs., using AgNO₃-impregnated thin layers. Elimination of this interference allows for detn. of the genuine character or eventual adulteration of the olive oil in canned fish, based on the **sterol** compn.

L22 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1981:441043 CAPLUS

DOCUMENT NUMBER: 95:41043

TITLE: Fractionation of **fish oil** lipids

INVENTOR(S): Demchenko, A. I.; Zavarzina, G. A.; Starikov, G. V.

PATENT ASSIGNEE(S): Irkutsk State Medical Institute, USSR

SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1981, (15), 191.

CODEN: URXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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SU 824054	A1	19810423	SU 1978-2600196	19780405

AB The accuracy of the title process (which included applying **fish oil** to silica gel with subsequent elution of fractions of lipids with org. solvents) was increased by 1st treating silica gel with an alkali soln. A mixt. of neutral lipids and phospholipids was eluted from the applied sample successively 1st with Et₂O and then with MeOH. The nonesterified aliph. acids were eluted with a 2% soln. of formic acid in Et₂O. The mixt. of eluates of neutral lipids and phospholids was concd. and chromatographed on silica gel. A fraction of **sterol** ethers was eluted with a mixt. of hexane and di-Et formate in Et₂O. Triglycerides were eluted with the same eluents (90 : 10) and **cholesterol** and diglycerides were eluted with an 80 : 20 mixt. of the eluents. Polyglycerides were washed with Et₂O from the adsorbent remaining on silica gel and a fraction of phospholipids was eluted with a 20 : 80 mixt. of CHCl₃-MeOH.

L22 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2002 ACS

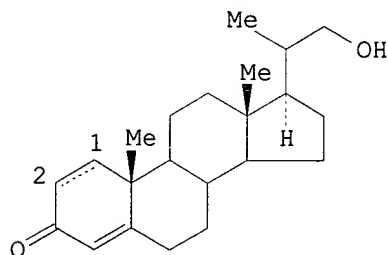
ACCESSION NUMBER: 1980:4699 CAPLUS

DOCUMENT NUMBER: 92:4699

TITLE: Steroidal alcohols by cultivating Mycobacterium microorganisms
 INVENTOR(S): Imada, Yukio; Takahashi, Katsuhiko
 PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 35 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1622	A1	19790502	EP 1978-101142	19781013
EP 1622	B1	19811014		
R: CH, DE, FR, GB, NL, SE				
JP 54067094	A2	19790530	JP 1977-123184	19771014
JP 60058956	B4	19851223		
JP 54067095	A2	19790530	JP 1977-123185	19771014
JP 60024719	B4	19850614		
US 4223091	A	19800916	US 1978-945349	19780925
CA 1118376	A1	19820216	CA 1978-312245	19780928
HU 22451	O	19820528	HU 1978-MI638	19781012
HU 180021	B	19830128		
DD 140478	C	19800305	DD 1978-208440	19781013
PRIORITY APPLN. INFO.:			JP 1977-123184	19771014
			JP 1977-123185	19771014

GI



I, 1,2-unsatd.

II, 1,2-satd.

AB Steroidal alcs. are produced by Mycobacterium species capable of producing 20.alpha.-hydroxymethylpregna-1,4-dien-3-one or 20.alpha.-hydroxymethylpregn-4-en-3-one when provided with a **sterol** substrate. Thus, a starter culture was prepd. by inoculating a nutrient medium of glucose 10, meat ext. 1.0, and peptone 1.0% with M. parafortuitum and incubating at 30.degree. for 72 h with shaking. The seed culture was then inoculated into a prodn. medium contg. soybean meal 4, K2HPO4 0.2, MgSO4.7H2O 0.1, **fish oil** residue 2, NaNO3 0.2, and **cholesterol** [57-88-5], which was incubated at 30.degree. for 160 h with shaking. Extn. of the resulting fermn. broth with EtOAc followed by filtration of the ext. gave a filtrate having the steroid compn. **cholesterol** 0.05, 20.alpha.-hydroxymethylpregna-1,4-dien-3-one (I) [35525-27-0] 2.65, and 20.alpha.-hydroxymethylpregn-4-en-3-one [40736-33-2] (II) 0.22 g. After chromatographing the ext. on silica gel and eluting with 20 g EtOAc-hexane, the eluates were concd. and then purified by evapg. the solvent followed by recrystn. from 10% EtOH-heptane. The yields of pure crystals of I and II were 2.45 and 0.17 g, resp.

DOCUMENT NUMBER: 82:169241
TITLE: Alimentary production of gallstones in hamsters. 27.
Influence of supplementation of the gallstone
producing diet with squalene, **cholesterol**,
other sterols, **fish oil** fatty acid
ethyl esters, and modification of the basal diet on
gallstone production and levels of **cholesterol**
in serum and liver
AUTHOR(S): Dam, H.; Prange, I.; Soendergaard, E.
CORPORATE SOURCE: Dep. Biochem. Nutr., Polytech. Inst., Copenhagen, Den.
SOURCE: Z. Ernaehrungswiss. (1974), 13(4), 208-36
CODEN: ZERNAL
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Several sterols were tested for their ability to inhibit the formation of
cholesterol-contg. gallstones in hamsters fed a diet which induced
the prodn. of such gallstones. Complete protection against the gallstones
was obtained by the addn. of 1% squalene, **cholesterol**, or distd.
menhaden oil fatty acid Et esters to the diet, or by substitution of rice
starch for glucose in the diet. The addn. of **cholesterol**
stimulated the prodn. of amorphous pigmented gallstones in female hamsters
and caused increased serum and liver **cholesterol** levels in both
sexes.

L22 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1967:96273 CAPLUS
DOCUMENT NUMBER: 66:96273
TITLE: Determination of sterols in the study of fatty binders
for painting
AUTHOR(S): Wolff, Jean Pierre; Karleskind, Alain; Audiau,
Francois
SOURCE: Double-Liaison (1966), No. 136, 1529-36
CODEN: DOLIA8
DOCUMENT TYPE: Journal
LANGUAGE: French

AB To det. the purity of oils and fatty substances, esp. in paint, the
identity and amts. of sterols present were detd. by gas chromatog.
Improved development was obtained with 95:5 C₆H₆-Me₂CO as solvent. From
20 to 25 mg. unsaponifiable material was deposited on plates 20 .times. 20
cm. with Al₂O₃ coatings 25 mm. thick. This was developed with C₆H₆-Me₂CO,
made visible with 0.2% alc. dichlorofluorescein, and extd. with Et₂O. The
sterols isolated in a stainless-steel column (at 265.degree.) were gas
chromatographed with 10% Chromasorb W on silicone. The identification and
detn. of a mixt. of **cholesterol**, brassicasterol, campesterol,
stigmasterol, .beta.-sitosterol, and stigmastanol are described.
Characteristic amts. of these sterols indicated the presence of such
binders as copra, linseed, soybean, corn, grapeseed, Chinawood, safflower,
and castor oil. The presence of a **fish oil** (sardine)
was indicated by the presence of >5% **cholesterol**. Even when
glycerophthalic resins modified with oils were used as paint binders, the
nature of the oil was evident from the **sterol**-compn.

L22 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1952:16367 CAPLUS
DOCUMENT NUMBER: 46:16367
ORIGINAL REFERENCE NO.: 46:2824f-i
TITLE: Recovery and purification of sterols
INVENTOR(S): van Schuppen en Zoon, D. S.
PATENT ASSIGNEE(S): N. V. Veenendaalsche Sajet en Vijfschachtfabriek
voorheen Wed.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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FR 962606		19500615	FR	

AB Sterols have been removed from wool-fat residues and the like by forming an insol. addn. product with a multivalent metal salt; the amt. of the salt added is 1/n mole per mole of **sterol**, n being the valency of the metal. Use an excess of anhyd. ZnCl₂, e.g. from 4 to 6 times that usually required, does, however, give good results. ZnCl₂ also forms addn. compds. with wool-fat alcs., but these compds. are sol. in benzene, toluene, and gasoline while the **sterol** addn. compds. are insol. The effects of temp., time of treatment, amt. and kind of solvent, and the amt. of ZnCl₂ are discussed. Yields of 95% **cholesterol** of 92.5% purity can be obtained. (1) Anhyd. ZnCl₂, 325 g., is heated with stirring on a steam bath for 30 min. with 1 kg. wool-fat residue contg. 30.8% **cholesterol**. After cooling, 5 l. isooctane is added, and the mixt. is centrifuged. The solid is washed with 2 l. isooctane, recentrifuged, and decompd. with water to give 94.7 g. **cholesterol**. (2) **Fish oil**, 250 g., is saponified for 2 hrs. with 100 g. KOH in 1.5 l. water. The soap soln. is extd. with petr. ether to leave 22.9 g. nonsaponifiable mass which is dissolved in 100 cc. isooctane and 6 g. ZnCl₂ is added. The mixt. is heated on a steam bath for 1 hr. with stirring. After centrifuging, washing with isooctane, recentrifuging, and treating with water, 5.6 g. **sterol**, 85.8% yield, is obtained.

=>

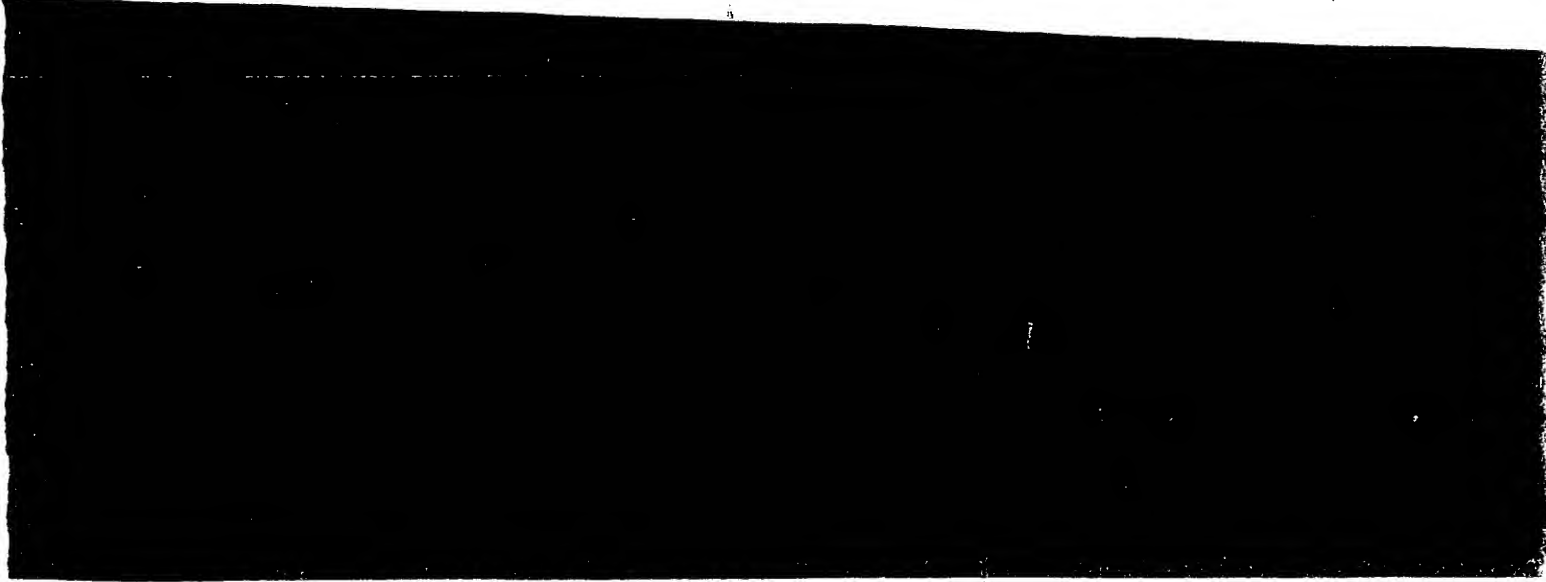
=> D HIS

(FILE 'REGISTRY' ENTERED AT 13:30:47 ON 07 FEB 2000)
DEL HIST

L1 FILE 'HCAPLUS' ENTERED AT 13:48:09 ON 07 FEB 2000
L2 2783 S WRIGHT, J?/AU
L3 197772 S FATTY ACID#
L4 40 S L1 AND L2
4 S OMEGA AND L3
SELECT L4 RN 1-4

L5 FILE 'REGISTRY' ENTERED AT 13:49:47 ON 07 FEB 2000
12 S E1-12

L6 FILE 'HCAPLUS' ENTERED AT 13:50:16 ON 07 FEB 2000
L7 4 S L4 AND L5
L8 20378 S STEROL#
L9 8 S L7 AND L1
0 S L2 AND L8



=> D BIB ABS HITSTR 1-4

L6 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2000 ACS

AN 1999:506653 HCAPLUS

DN 131:350639

TI The quantitation of lipoprotein lipase mRNA in biopsies of human adipose tissue, using the polymerase chain reaction, and the effect of increased consumption of n-3 polyunsaturated **fatty acids**

AU Murphy, MC; Brooks, CN; Rockett, JC; Chapman, C.; Lovegrove, JA; Gould, BJ; **Wright, JW**; Williams, CM

CS Centre for Nutrition and Food Safety, School of Biological Sciences, University of Surrey, Surrey, GU2 5XH, UK

SO Eur. J. Clin. Nutr. (1999), 53(6), 441-447

CODEN: EJCNEQ; ISSN: 0954-3007

PB Stockton Press

DT Journal

LA English

AB To examine the effects of the consumption of fish oils on the gene expression of lipoprotein lipase (LPL, EC 3.1.1.34) in human adipose tissue. In order to measure LPL mRNA in adipose tissue samples obtained by needle biopsy from human volunteers a competitive, reverse transcriptase PCR (RT-PCR) protocol was developed. A randomised controlled, single blind cross over dietary study which compared the effects of a low level n-3 polyunsatd. **fatty acids** (PUFA) using normal foods enriched with eicosapentaenoic (EPA) and docosahexaenoic (DHA) (test diet), with non-enriched but otherwise identical foods (control). The diets were consumed for a period of 22 d with a wash out period of 5 mo between the diets. Free-living

individuals

assocd. with the University of Surrey. Six male subjects with a mean (\pm sd) age of 51.2 \pm 3.6 y were recruited. Pre- and postprandial blood samples were taken for the measurement of triacylglycerol (TAG), postheparin LPL activity and adipose tissue samples for the measurement

of

LPL mRNA levels. Mean LPL expression values were 4.12 \times 10⁵ mols. of LPL mRNA per ng total RNA on the control diet and 4.60 \times 10⁵ mols. of LPL mRNA per ng total RNA on the n-3 PUFA enriched (test) diet. There was no significant difference between the levels of LPL expression following each diet, consistent with the lack of change in TAG levels in response to increased dietary n-3 PUFA intake. However, the change in

LPL

expression (Test-Control diet) correlated significantly with the change

in

fasting TAG levels ($P=0.03$, $R=-0.87$ and $R^2=0.75$) and with the total area under the TAG-time response curve ($P=0.003$, $R=-0.96$ and $R^2=0.92$) in individuals. These findings, although based on a small no. of subjects, suggest that LPL expression may be a determinant of plasma TAG levels. The development of this methodol. should allow further elucidation of the effects of dietary manipulation and disease processes on lipid clearance and regulation in human subjects.

IT 6217-54-5, Docosahexaenoic acid 32839-30-8,

Eicosapentaenoic acid

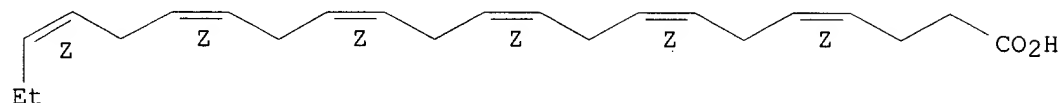
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)

(lipoprotein lipase mRNA in human adipose tissue, after using PCR in relation to increased consumption of n-3 polyunsatd. **fatty**

Searched by John Dantzman 308-4488

acids)
 RN 6217-54-5 HCAPLUS
 CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 32839-30-8 HCAPLUS
 CN Eicosapentaenoic acid, (Z,Z,Z,Z,Z)- (9CI) (CA INDEX NAME)
 CM 1
 CRN 506-30-9
 CMF C20 H40 O2

HO₂C- (CH₂)₁₈-Me

IT 9004-02-8, Lipoprotein lipase
 RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
 (lipoprotein lipase mRNA in human adipose tissue, after using PCR in relation to increased consumption of n-3 polyunsatd. **fatty acids**)

RN 9004-02-8 HCAPLUS
 CN Lipase, lipoprotein (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L6 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2000 ACS

AN 1999:339050 HCAPLUS

DN 131:144031

TI Markers of intestinally-derived lipoproteins: application to studies of altered diet and meal **fatty acid** compositions

AU Lovegrove, J. A.; Jackson, K. G.; Murphy, M. C.; Brooks, C. N.; Zampelas, A.; Knapper, J. M. E.; **Wright, J. W.**; Gould, B. J.; Williams, C. M.

CS Hugh Sinclair Unit of Human Nutrition, Department of Food Science and Technology, University of Reading, Reading, RG6 6AP, UK

SO Nutr., Metab. Cardiovasc. Dis. (1999), 9(1), 9-18

CODEN: NMCDEE; ISSN: 0939-4753

PB Medikal Press

DT Journal

LA English

AB The atherogenic potential of diet-derived lipids, chylomicrons (CM) and their remnants (CMr), is widely recognized. To investigate factors affecting the levels of CM and CMr and their importance in coronary heart disease risk, it is essential to use specific methods of quantification. Two studies were carried out on the effects of increased daily intake of long-chain n-3 polyunsatd. **fatty acid** (PUFA) and the effects of increasing meal monounsatd. **fatty acid**

Searched by John Dantzman 308-4488

(MUFA) content on the postprandial responses of intestinally derived lipoproteins. The contribution of the intestinally derived lipoproteins to total lipemia was assessed by triacylglycerol-rich lipoprotein (TRL) apolipoprotein B-48 (apo B-48) and retinyl ester (RE) concns. Mean daily intakes of 1.4 g PUFA failed to decrease the fasting and postprandial triacylglycerol (TAG) responses in 9 healthy men. Although the pattern and nature of the apo B-48 responses were consistent with the TAG responses following the 2 diets, the postprandial RE responses differed

on

the PUFA diet with a lower early RE response and a delayed more marked increase in RE in the late postprandial period compared with the control diet. In the meal study there was no effect of MUFA and satd.

fatty acids (SFA) content on the total lipemic responses to the meals nor on the contribution of intestinally derived lipoproteins evaluated as TAG, apo B-48, and RE responses in the TRL fraction. In

both

studies the RE and apo B-48 provided broadly similar information with respect to lack of effects of dietary or meal **fatty acid** compn. and the presence of single or multiple peak responses. The apo B-48 and RE data differed with respect to the timing of their peak response times, with a delayed RE peak relative to apo B-48 by .apprx.2-3 h for the PUFA diet and 1-1.5 h for the meal MUFA/SFA study. Thus, there are limitations in using RE as a specific CM marker; apo B-48 assay is a more appropriate method for CM and CMr quantitation. It is still of

value

to measure RE as it provides addnl. information regarding the incorporation of other constituents into the CM particles.

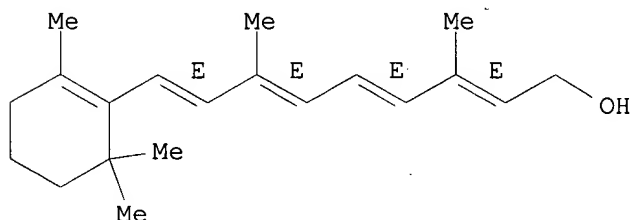
IT 68-26-8D, Retinol, esters

RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(dietary **fatty acid** effects on intestinally derived
chylomicron and remnant and markers of lipoprotein compn. in humans)

RN 68-26-8 HCAPLUS

CN Retinol (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L6 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2000 ACS

AN 1998:710973 HCAPLUS

DN 130:94878

TI Evaluation of the effects of **omega-3 fatty acid**-containing diets on the inflammatory stage of wound healing in dogs

AU Mooney, Mark A.; Vaughn, Dana M.; Reinhart, Gregory A.; Powers, Robert D.;

Wright, James C.; Hoffman, Charles E.; Swaim, Steven F.; Baker, Henry J.

Searched by John Dantzman 308-4488

CS Scott-Ritchey Research Center, College of Veterinary Medicine, Auburn University, AL, 36849-5525, USA

SO Am. J. Vet. Res. (1998), 59(7), 859-863
CODEN: AJVRAH; ISSN: 0002-9645

PB American Veterinary Medical Association

DT Journal

LA English

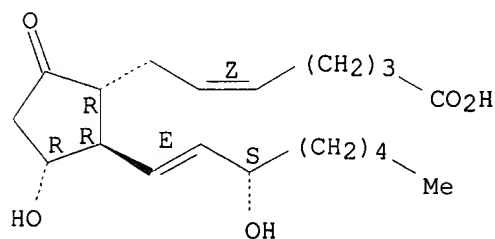
AB The effects of dietary **omega-3 (n-3) fatty acids** on biochem. and histopathol. components of the inflammatory stage of wound healing were studied in 30 Beagles. Each group of 6 dogs was fed a unique dietary **fatty acid** ratio of **omega-6** to n-3-diet A, 5.3:1; diet B, 10.4:1; diet C, 24.1:1; diet D, 51.6:1; and diet E, 95.8:1. Dogs were fed once daily for 12 wk, then biopsy specimens were taken from 4-day-old wounds of each dog and analyzed by gas chromatog.-mass spectrometry for: prostaglandin E2 (PGE2) metabolites, and ratios of **omega-6** to n-3 **fatty acids**, arachidonic acid (AA) to eicosapentaenoic acid (EPA), adrenic acid to docosahexaenoic acid, and PGE2 to prostaglandin E3 (PGE3) metabolites. Qual. anal. was carried out on AA, EPA, adrenic acid, docosahexaenoic acid, and the major metabolite from the PGE2 and PGE3 pathway. These mols. were further quantified with respect to diet to det. significant differences. By anal. of the AA-to-EPA ratio, diet A was different from diets D and E and diets B and C were different from diet E ($P < 0.05$). By anal. of the PGE2-to-PGE3 metabolite ratio, diet A was different from diet E ($P < 0.05$). Though biochem. anal. indicated dietary dependence, histopathol. data indicated no significant difference with respect to diet groups. The biochem. component of the inflammatory stage of wound healing can be manipulated by diet. **Omega-3 fatty acid**-enriched diets can be used to control inflammation assocd. with dermatol. conditions.

IT **363-24-6D**, Prostaglandin E2, metabolites **802-31-3D**, Prostaglandin E3, metabolites
RL: BOC (Biological occurrence); BPR (Biological process); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(effects of **omega-3 fatty acid**-contg. diets on the inflammatory stage of wound healing in dogs)

RN 363-24-6 HCAPLUS

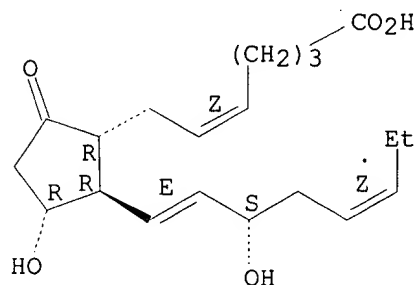
CN Prosta-5,13-dien-1-oic acid, 11,15-dihydroxy-9-oxo-, (5Z,11.alpha.,13E,15S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



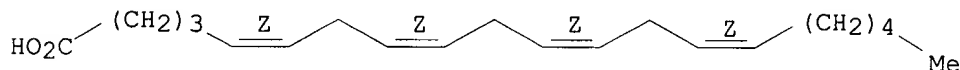
RN 802-31-3 HCAPLUS
 CN Prosta-5,13,17-trien-1-oic acid, 11,15-dihydroxy-9-oxo-,
 (5Z,11.alpha.,13E,15S,17Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



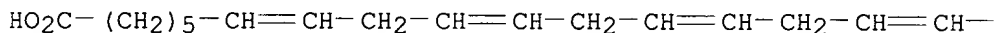
IT 506-32-1, Arachidonic acid 2091-25-0, Adrenic acid
 RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
 (effects of **omega-3 fatty acid**-contg.
 diets on the inflammatory stage of wound healing in dogs)
 RN 506-32-1 HCAPLUS
 CN 5,8,11,14-Eicosatetraenoic acid, (5Z,8Z,11Z,14Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

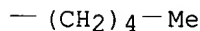


RN 2091-25-0 HCAPLUS
 CN 7,10,13,16-Docosatetraenoic acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

PAGE 1-A

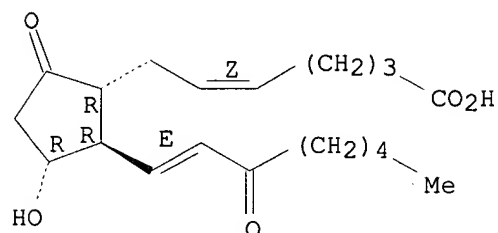


PAGE 1-B



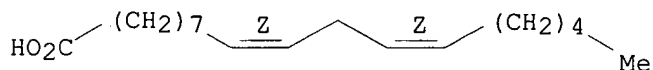
IT 26441-05-4, 15-Keto PGE2
 RL: BPR (Biological process); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)
 (effects of **omega-3 fatty acid**-contg.
 diets on the inflammatory stage of wound healing in dogs)
 RN 26441-05-4 HCAPLUS
 CN Prosta-5,13-dien-1-oic acid, 11-hydroxy-9,15-dioxo-, (5Z,11.alpha.,13E)-
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



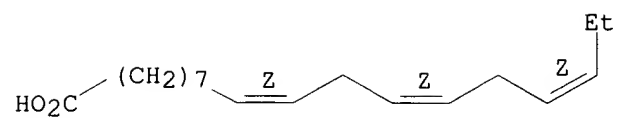
L6 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2000 ACS
 AN 1997:323747 HCAPLUS
 DN 127:16991
 TI **Omega-3 fatty acids** in the nutrition of the
 black rhinoceros (*Diceros bicornis*) in captivity in the United States
 AU **Wright, J. B.**; Brown, D. L.; Dierenfeld, E.S.
 CS Department of Animal Science, Cornell University, Ithaca, NY, USA
 SO Proc. - Cornell Nutr. Conf. Feed Manuf. (1996) 87-91
 CODEN: PNCFAB
 PB Cornell University, New York State College of Agriculture and Life
 Sciences, Dep. of Animal Science and Division of Nutritional Sciences
 DT Journal
 LA English
 AB Feed from 19 black rhinoceros holding facilities in the United States was
 analyzed for lipids compn. Linoleic acid and n-3 and n-6 linolenic acid
 contents of alfalfa and other hays, pellets and African browse were detd.
 Highest levels of all 3 **fatty acids** were found in feed
 pellets.
 IT 60-33-3, 9,12-Octadecadienoic acid (Z,Z)-, biological studies
 463-40-1 1955-33-5, 9,12,15-Octadecatrienoic acid
 RL: BOC (Biological occurrence); BIOL (Biological study); OCCU
 (Occurrence)
 (n-3 **fatty acids** in the nutrition of the black
 rhinoceros in captivity in the United States)
 RN 60-33-3 HCAPLUS
 CN 9,12-Octadecadienoic acid (9Z,12Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



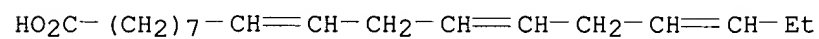
RN 463-40-1 HCAPLUS
 CN 9,12,15-Octadecatrienoic acid, (9Z,12Z,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 1955-33-5 HCAPLUS

CN 9,12,15-Octadecatrienoic acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



=> d his

(FILE 'HOME' ENTERED AT 08:06:34 ON 08 FEB 2000)

FILE 'REGISTRY' ENTERED AT 08:06:37 ON 08 FEB 2000
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L2 SCR 1992 OR 2016 OR 2026 OR 2021
L3 SCR 963 AND 1006 AND 1018 AND 1199
L4 9706 SEA FILE=REGISTRY SSS FUL L1 AND L3 NOT L2

L5 204883 S 4432.3/RID
L6 231 S L4 AND L5
L7 STR L1
L8 50 S L7 SSS SAM SUB=L4
L9 2247 S L7 SSS FUL SUB=L4
L10 60 S L5 AND L9

FILE 'CAPLUS' ENTERED AT 08:14:11 ON 08 FEB 2000

L11 181 S L10
L12 8 S L11 AND NUTRITION?
L13 6 S L11 AND (SUPPLEMENT?)
L14 12 S L12 OR L13
L15 127 S L10 AND (CHOLESTEROL OR TRIGLYCERID?)
L16 11 S L10 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)
L17 21 S L12 OR L13 OR L16

FILE 'REGISTRY' ENTERED AT 08:24:50 ON 08 FEB 2000

L18 2187 S L9 NOT L10

FILE 'CAPLUS' ENTERED AT 08:25:18 ON 08 FEB 2000

L19 100 S L18(L) (STEROL OR SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
S
L20 5 S L18(L) (STIGMASTEROL)
L21 0 S L20 AND (NUTRITION? OR SUPPLEMENT?)
L22 0 S L20 AND (NUTRITION?)
L23 0 S L20 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:48:38 ON 08 FEB 2000

L24 2 S L14
L25 1 S L16
L26 2 S L24 OR L25
L27 2 DUP REMOV L26 (0 DUPLICATES REMOVED)

FILE 'REGISTRY' ENTERED AT 08:50:43 ON 08 FEB 2000

FILE 'CAPLUS' ENTERED AT 08:51:05 ON 08 FEB 2000

L28 17995 S L9
L29 20 S L18(L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO
L30 4 S L29(L) (MIXTURE OR ESTER? OR MIXT)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:57:41 ON 08 FEB 2000

Searched by John Dantzman 308-4488

L31 0 S L30

FILE 'REGISTRY' ENTERED AT 08:59:53 ON 08 FEB 2000

L32 31 S L9 AND DOCOSAHEXAENOATE
L33 351 S L9 AND EICOSAPENTAENOIC
L34 382 S L32 OR L33
L35 3 S L34 AND L5

FILE 'CAPLUS' ENTERED AT 09:03:01 ON 08 FEB 2000

L36 40 S L34 AND (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTE
L37 2 S L34(L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO
L38 18 S L34(L) STEROL
L39 23 S L35
L40 25 S L37 OR L39
L41 25 S L37 OR L39 OR L35
L42 25 S L35 OR L37

=> d 114 bib abs hitstr

L14 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1999:374325 CAPLUS

DN 131:169536

TI Study on cholesteryl ester fatty acids in camel and cow milk lipid

AU Gorban, Ali M. S.; Izzeldin, Omar M.

CS Department of Biochemistry, College of Science, King Saud University, Riyadh, 11451, UK

SO Int. J. Food Sci. Technol. (1999), 34(3), 229-234

CODEN: IJFTEZ; ISSN: 0950-5423

PB Blackwell Science Ltd.

DT Journal

LA English

AB The av. lipid content of mature camel milk (3.48 g/100 g), was less than cow's milk (3.69 g/100 g), but the total cholesterol content of camel

milk

was high (31.32 mg/100 g) when compared to the total cholesterol content of cow's milk (25.63 mg/100 g). The av. free cholesterol content of mature milk from 54 lactating camels was 21.34 mg/100 g, while the av. free cholesterol of mature milk of 24 lactating cows was 17.25 mg/100 g. In the esterified fraction of camel's milk, the percentage of satd. fatty acids was 52% with a content of palmitic acid of 18.4%. In cow's milk satd. fatty acids accounted for 58% of the total with a content of palmitic acid of 23.6%. The unsatd. fatty acids fraction in both groups was mainly contributed by oleic acid and palmitoleic acid. Pelargonic acid (C9:0) and decanoic acid (C10:1) were found in significant amts. in mature camel milk, but were only just detectable in cow's milk. The higher content of medium chain fatty acids in camel milk is useful from a **nutritional** point of view as they are more easily absorbed and metabolized than long chain fatty acids.

IT 2545-22-4

RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)

(cholesteryl ester fatty acids in camel and cow milk lipid)

RN 2545-22-4 CAPLUS

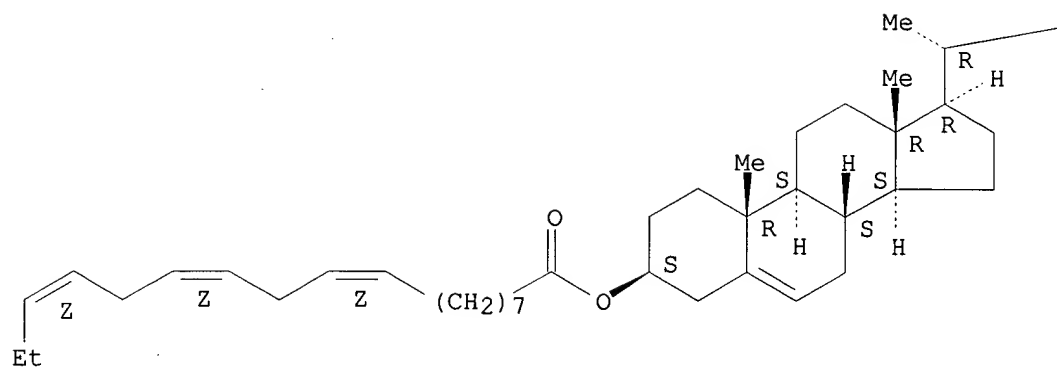
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

(CA INDEX NAME)

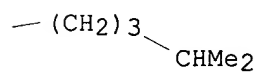
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d 114 bib abs hitstr 2

L14 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1998:398767 CAPLUS

DN 129:67239

TI Olive oil **supplementation** in health adults. Effects in cell membrane fatty acid composition and platelet function

AU Vicario, Isabel M.; Malkova, Dala; Lund, Elizabeth K.; Johnson, Ian T.

CS Norwich Lab., Inst. Food Res., Norwich, UK

SO Ann. Nutr. Metab. (1998), 42(3), 160-169

CODEN: ANUMDS; ISSN: 0250-6807

PB S. Karger AG

DT Journal

LA English

AB Healthy were given a daily **supplement** of 30 g olive oil for 6 wk to evaluate how it would affect cell membrane compn. and ultimately platelet function. Fasting blood and cheek cell samples were taken

before

commencing the study, after 21 and 42 days of **supplementation** and also at 30 days after finishing the **supplement** (washout). C18:1n-9 was significantly increased in platelet and cheek cell phospholipids. Erythrocytes were not good markers for C18:1n-9 intake

and

no change was found in this tissue. There was a small nonsignificant decrease in platelet phospholipid 20:4n-6 after the **supplementation**. C18:1n-9 did not persist in platelet membranes after the volunteers stopped consuming the olive oil **supplement**, but in erythrocytes an increase was found after the washout period. None of these changes in fatty acid compn. in the different tissues were related to changes in blood serum cholesterol-related variables or in clotting factors or ADP-induced platelet aggregation.

IT 2545-22-4, Cholesteryl linolenate 74892-97-0

RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)

(olive oil **supplementation** effects on cell membrane fatty acid compn. and platelet function)

RN 2545-22-4 CAPLUS

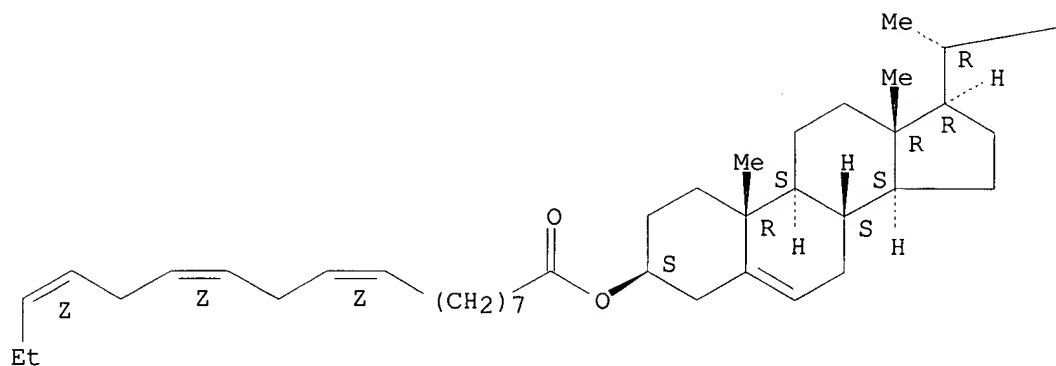
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

(CA INDEX NAME)

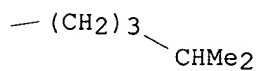
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



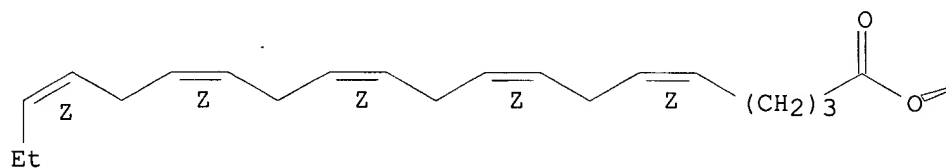
RN 74892-97-0 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

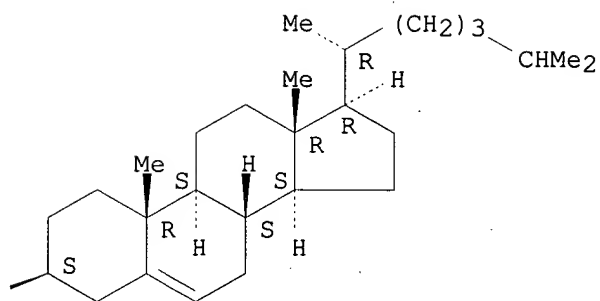
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d 114 bib abs hitstr 3

L14 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1997:225525 CAPLUS

DN 126:315798

TI Several mechanisms contribute to the abnormal fatty acid composition of serum phospholipids and cholesterol esters in cholestatic children with extrahepatic biliary atresia

AU Robberecht, E.; Koletzko, B.; Christophe, A.

CS Dep. Pediatrics, Univ. Hospital, Ghent, Belg.

SO Prostaglandins, Leukotrienes Essent. Fatty Acids (1997), 56(3), 199-204
CODEN: PLEAEU; ISSN: 0952-3278

PB Churchill Livingstone

DT Journal

LA English

AB The fatty acid compns. of serum phospholipids and cholesterol esters and direct bilirubinemia were detd. in 11 children with cholestasis due to extrahepatic biliary atresia. The levels of the different fatty acids in these lipid classes were compared with those of 22 appropriate controls and correlations with conjugated bilirubinemia were calcd. Significant differences were found in the levels of several fatty acids in these

lipid

classes, some of which were related to conjugated bilirubinemia. Relationships between fatty acids in phospholipids and cholesterol esters which exist in the control group were wither absent or different in the patient group. The results found are compatible with the concept that malabsorption, overflow in blood of phospholipids, which are excreted in bile in healthy individuals, and liver disease per se contribute to the deviating fatty acid compns. They suggest that administration in the

diet

may be required of preformed long chain polyunsatd. fatty acids in an easily absorbable form.

IT 74892-97-0

RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)

(fatty acid compn. of serum phospholipids and cholesterol esters in cholestatic children with extrahepatic biliary atresia)

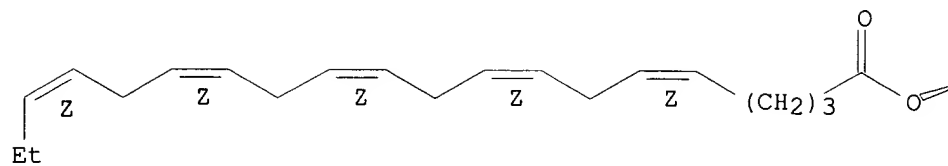
RN 74892-97-0 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

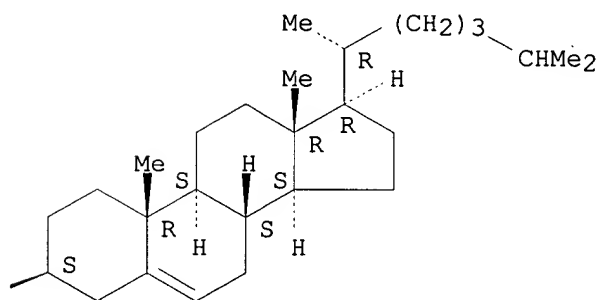
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d 114 bib abs hitstr 4

L14 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1994:587306 CAPLUS

DN 121:187306

TI Cholesteryl esters of unsaturated fatty acids for use in pharmaceutical and **nutritional** composition

IN Horrobin, David Frederick

PA Scotia Holdings PLC, UK

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 606012	A1	19940713	EP 1993-310599	19931229
	EP 606012	B1	19980715		
SE	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT,				
	AT 168267	E	19980815	AT 1993-310599	19931229
	ES 2119871	T3	19981016	ES 1993-310599	19931229
	AU 9352763	A1	19940714	AU 1993-52763	19931230
	AU 673555	B2	19961114		
	ZA 9400025	A	19940819	ZA 1994-25	19940104
	CA 2112824	AA	19940707	CA 1994-2112824	19940105
	NO 9400035	A	19940707	NO 1994-35	19940105
	JP 06234644	A2	19940823	JP 1994-338	19940106
	CN 1096197	A	19941214	CN 1994-100242	19940106
	US 5604216	A	19970218	US 1994-178553	19940106
PRAI	GB 1993-125		19930106		

AB Cholesterol fatty acid esters, where the fatty acid is chosen from an essential fatty acid, parinaric acid, and columbinic acid may be used in therapy, esp. in the treatment of cancer and cardiovascular disease. For example, cholesteryl (z,z,z)-octadeca-6,9,12-trienoate was prepd. Formulations contg. cholesterol .gamma.-linolenic acid ester are also described.

IT **157904-24-0**

RL: BIOL (Biological study)

(pharmaceutical and **nutritional** compns. contg.)

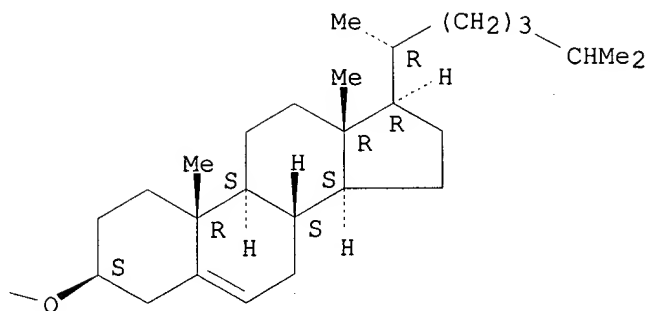
RN 157904-24-0 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, 9,11,13,15-octadecatetraenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry unknown.

PAGE 1-B

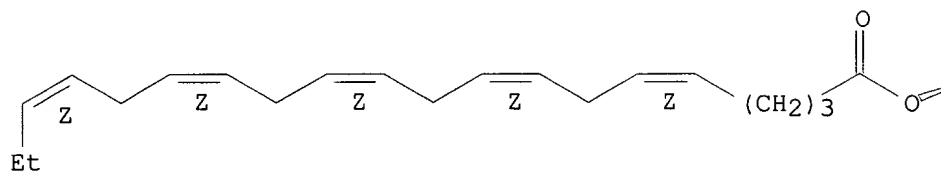


RN 74892-97-0 CAPLUS

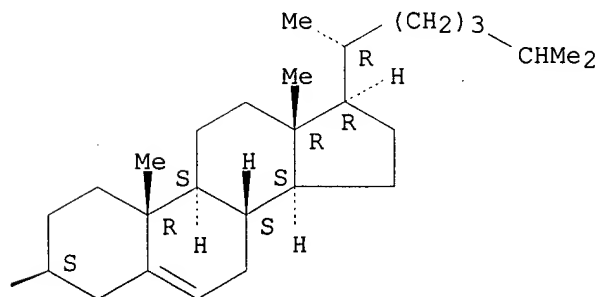
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



Searched by John Dantzman

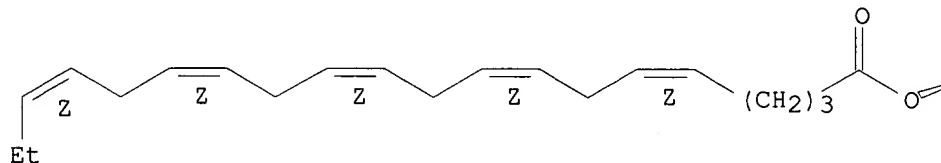
308-4488

=> d 114 bib abs hitstr 5

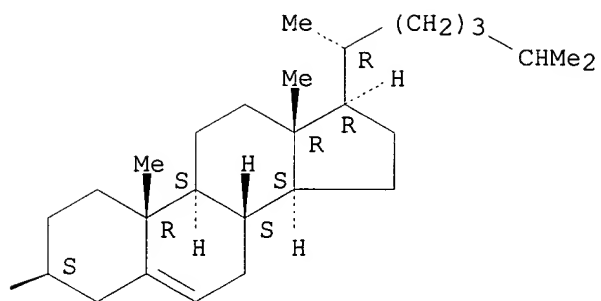
L14 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2000 ACS
AN 1994:103047 CAPLUS
DN 120:103047
TI Investigation of the fatty acid compositions of serum cholesteryl esters in the populations of some districts and ethnic groups in China
AU Chen, Wenxiang; Li, Jianzhai
CS Beijing Inst. Geriatr., Beijing, 100730, Peop. Rep. China
SO Yingyang Xuebao (1993), 15(3), 284-8
CODEN: YYHPA4; ISSN: 0512-7955
DT Journal
LA Chinese
AB The fatty acid compns. of cholesteryl esters in men of 4 ethnic groups in 5 districts in China were analyzed. Fatty acid patterns of cholesteryl esters in different population groups were similar, though some variations were obsd. which seemed to be caused by the difference in diet. The correlations of serum cholesteryl ester fatty acids with the quality and quantity of dietary fat and with the serum lipid levels were discussed.
IT 74892-97-0
RL: BIOL (Biological study)
(of blood serum, of Chinese men, dietary fat and genetics in relation to)
RN 74892-97-0 CAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



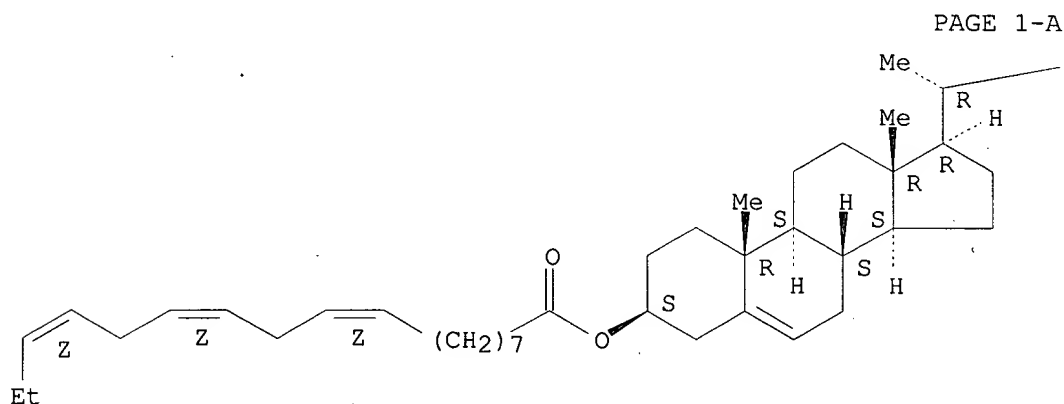
PAGE 1-B



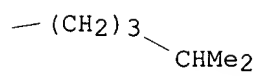
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L14 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2000 ACS
AN 1991:426324 CAPLUS
DN 115:26324
TI HPLC determination of cholesterol esters in the digestive gland-gonad complex of Biomphalaria glabrata snails fed hen's egg yolk versus leaf lettuce
AU Shetty, Prabhakara H.; Park, Yoko Y.; Fried, Bernard; Sherma, Joseph
CS Dep. Chem., Lafayette Coll., Easton, PA, 18042, USA
SO J. Liq. Chromatogr. (1991), 14(4), 643-9
CODEN: JLCHD8; ISSN: 0148-3919
DT Journal
LA English
AB HPLC was used to analyze cholesterol esters in the digestive gland-gonad (DGG) complex of B. glabrata snails fed leaf lettuce or hen's egg yolk. The lettuce and yolk were also analyzed for cholesterol esters. Trace amts. of cholesteryl linolenate and/or arachidonate were found in lettuce and the DGG of snails fed lettuce. Cholesteryl oleate, cholesteryl arachidonate and/or linolenate, cholesteryl palmitate, and cholesteryl linoleate were the major cholesterol esters in both egg yolk and the DGG of yolk-fed snails, but the percentage compn. of each ester was markedly different in both populations.
IT 2545-22-4, Cholesteryl linolenate
RL: BIOL (Biological study)
(of digestive gland-gonad complex, of snail, diet in relation to)
RN 2545-22-4 CAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)
(CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



PAGE 1-B



=> d 114 bib abs hitstr 7

L14 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1990:456849 CAPLUS

DN 113:56849

TI Molecular species of cholesteryl esters formed in abetalipoproteinemia: effect of apoprotein B-containing lipoproteins

AU Subbaiah, P. V.; Banerji, B.; Gregg, R. E.; Bagdade, J. D.

CS Dep. Med., Rush Med. Coll., Chicago, IL, 60612, USA

SO J. Lipid Res. (1990), 31(5), 927-32

CODEN: JLPRAW; ISSN: 0022-2275

DT Journal

LA English

AB In order to study the effects of very low d. (VLDL) and low d. (LDL) lipoproteins on the activity and specificity of lecithin:cholesterol acyltransferase (LCAT), the authors detd. the mol. species of cholesteryl esters (CE) synthesized in the plasma from three abetalipoproteinemic (ABL) patients, before and after **supplementation** with normal VLDL or LDL. The patients' plasma had significantly lower concn. of 18:2 CE and higher concns. of 16:0 CE and 18:1 CE compared to normal plasma. Incubation of ABL plasma with [4-14C]cholesterol at 37.degree. and the subsequent anal. of labeled CE formed by high performance liq. chromatog. revealed that the major species formed was 16:0 CE (34% of total label), whereas similar incubation of the d>1.063 g/mL fraction of normal plasma resulted in the formation of predominantly 18:2 CE (45% of total label). Addn. of normal VLDL or LDL to ABL plasma stimulated the total LCAT activity by 30-80% and normalized the CE species synthesized. The LCAT activity of a normal d>1.063 g/mL fraction also was stimulated by the normal VLDL or LDL, but there was no alteration in the species of CE formed. Most of the CE synthesized was found in the added VLDL or LDL with both ABL and normal plasma, indicating that the CE transfer (CET) activity was not affected in ABL plasma. These results suggest that

while

the VLDL and LDL are required for the maximal activity of LCAT, the species of CE formed are primarily detd. by the mol. species compn. of phosphatidylcholine in the plasma.

IT 70110-50-8 74892-97-0

RL: FORM (Formation, nonpreparative)

(formation of, low-d. and very-low-d. lipoproteins effects on, in abetalipoproteinemia of humans, lecithin:cholesterol acyltransferase

in

relation to)

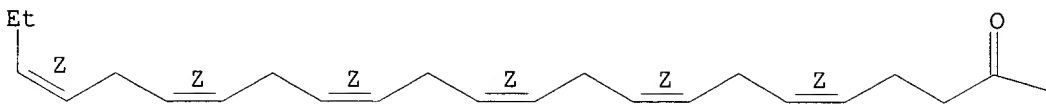
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaheptaenoate (9CI) (CA INDEX NAME)

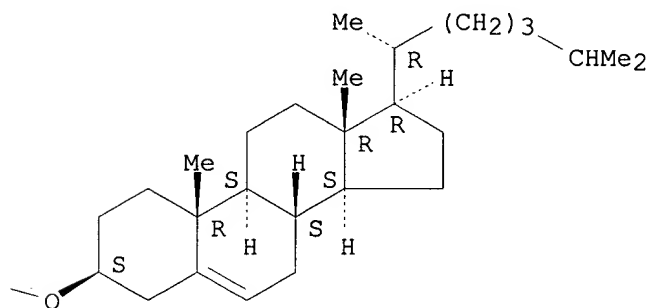
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

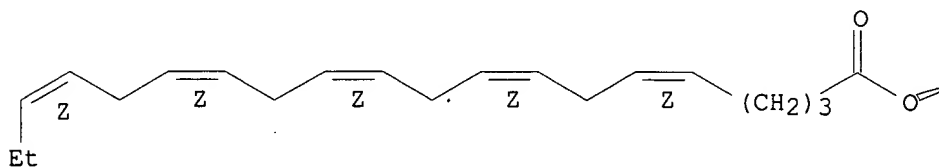


RN 74892-97-0 CAPLUS

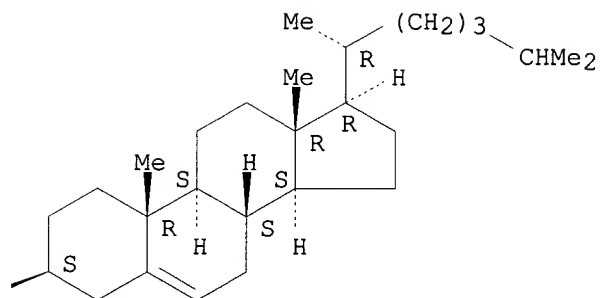
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d 114 bib abs hitstr 8

L14 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1988:111110 CAPLUS

DN 108:111110

TI Plasma triacylglycerol fatty acids in diabetic rats fed gamma-linolenic and marine n-3 fatty acids

AU Huang, Yung Sheng; Horrobin, D. F.

CS Efamol Res. Inst., Kentville, NS, B4N 4H8, Can.

SO Med. Sci. Res. (1987), 15(19), 1207-9

CODEN: MSCREJ

DT Journal

LA English

AB Streptozotocin-diabetic rats were fed fat-free diets **supplemented** with 29% conc. contg. 84% .gamma.-linolenic acid (18:3n-6) and 16% linoleic acid (18:2n-6), 2% fish oil conc. contg. 17.1% eicosapentaenoic acid (20:5n-3), 1.6% docosapentaenoic acid (22:5n-3) and 53.2% docosahexaenoic acid (22:6n-3), or 1% of each conc., and the fatty acid compn. of plasma phospholipids, cholesterol esters, and triglycerides was compared with that of control rats fed the same diets and **supplements**. The lipid levels in diabetic and control rats on the same diet were similar, but phospholipid and triglyceride levels were lower in both groups fed the n-3 fatty acids. Diabetes-induced changes

in satd. and monounsatd. fatty acids of plasma lipids were not affected by diet. In diabetic rats fed 2% C18:3n-6, polyunsatd. fatty acids

increased in all lipids, esp. triglycerides. Diabetes elevated the proportions of both n-3 and n-6 fatty acids in triglycerides, and increases in n-3 in rats fed the fish oil conc. were at the expense of n-6. In

phospholipids, arachidonic acid (20:4n-6) levels were unchanged and 18:2n-6, 18:3n-6,

and eicosatrienoic acid (20:3n-6) were increased. This suggests that .DELTA.6-desaturase and .DELTA.5-desaturase are inhibited in diabetes. Diabetes accentuated the suppression of .DELTA.5-desaturase activity

found with the n-3 fatty acid diet. In cholesterol esters in diabetes, n-3 fatty acids were lower than in phospholipids.

IT 70110-49-5 70110-50-8 74892-97-0

RL: BIOL (Biological study)

(of blood plasma, dietary n-3 and n-6 polyunsatd. fatty acids effect on, in diabetes)

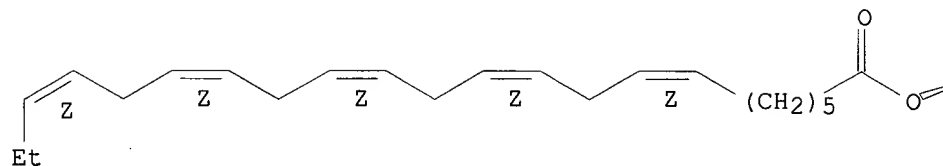
RN 70110-49-5 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (7Z,10Z,13Z,16Z,19Z)-7,10,13,16,19-docosapentaenoate (9CI) (CA INDEX NAME)

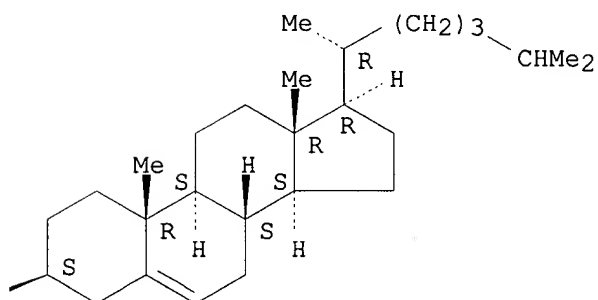
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

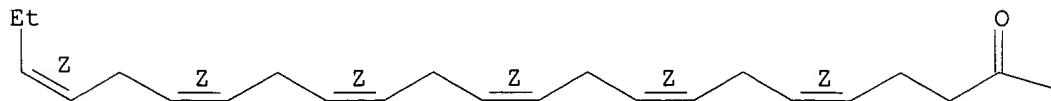


RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

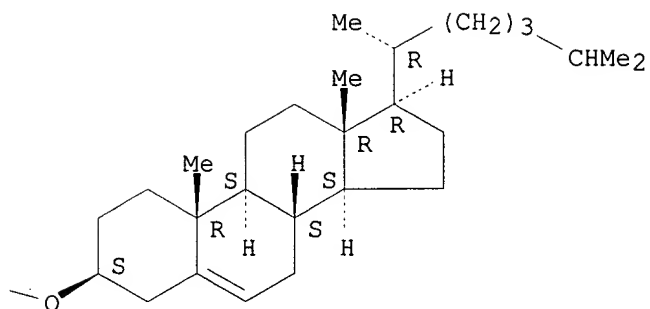
PAGE 1-A



Searched by John Dantzman

308-4488

PAGE 1-B

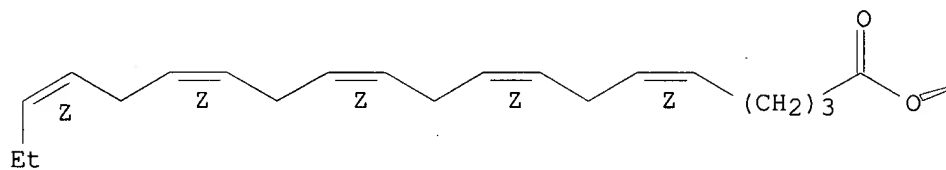


RN 74892-97-0 CAPLUS

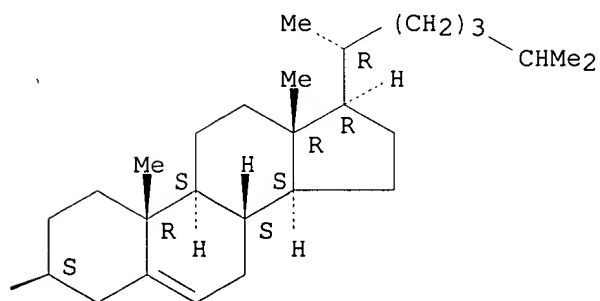
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



Searched by John Dantzman

308-4488

=> d 114 bib abs hitstr 9

L14 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1986:454983 CAPLUS

DN 105:54983

TI Thyroxine induced metabolic changes during heat exposure of cattle fed a restricted intake of lucerne hay

AU O'Kelly, John C.

CS Div. Trop. Anim. Sci., CSIRO, Queensland, 4702, Australia

SO Nutr. Rep. Int. (1986), 33(6), 931-8

CODEN: NURIBL; ISSN: 0029-6635

DT Journal

LA English

AB The metabolic consequences of i.m. injections of thyroxine (T4)

[51-48-9]

during const. heat exposure (32.degree.) were studied in Brahman steers fed a restricted intake of lucerne hay. Although, in comparison with the animals at a thermoneutral temp. (24.degree.), heat exposure alone (Ht) increased the loss of urinary N and fecal fat and lowered the plasma concns. of cholesterol [57-88-5] and phospholipid, these effects were significantly more pronounced when T4 was also administered (Ht+T4). Redns. in the concns. of circulating cholesterol and phospholipid paralleled the changes in the quantities of fatty acids lost in the

feces.

Ht+T4 increased the plasma concns. of nonesterified fatty acids, glucose, and lactic acid [50-21-5]. Following T4 administration to cattle on restricted feed intakes during heat exposure, the metabolic derangements caused by the stress of moderate heat loads were amplified and coupled with addnl. metabolic defects which reflect manifestations of thyrotoxicosis. Thus, the impaired growth rates of cattle due to that exposure are not likely to be greatly improved by the use of thyroid hormone replacement therapy nor by the use of anabolic compds. which mediate their effects predominantly through increased thyroid activity.

IT 2545-22-4

RL: BIOL (Biological study)

(of blood plasma, of cattle, heat stress in T4 effect on)

RN 2545-22-4 CAPLUS

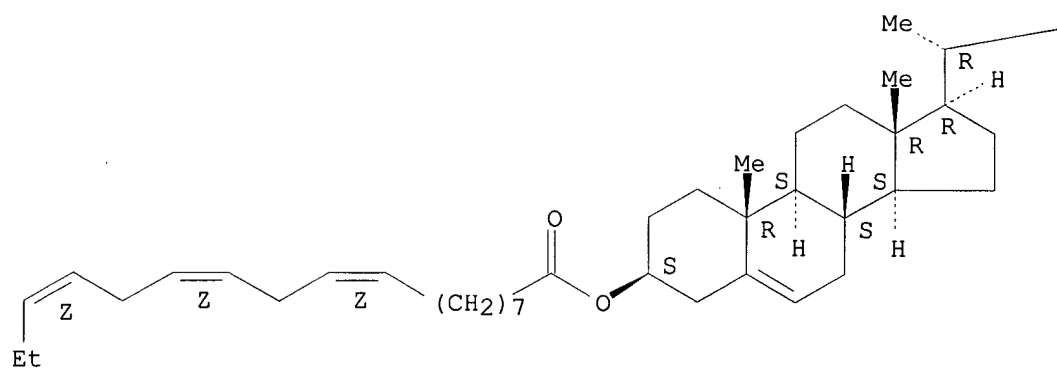
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

(CA INDEX NAME)

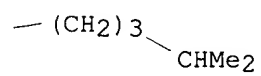
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d 114 bib abs hitstr 10

L14 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1985:613995 CAPLUS

DN 103:213995

TI Hypokinesia, **nutrition** and metabolism of lipids. Effect of protein and vitamin deficiency on blood serum lipids and lipoproteins in hypokinesia

AU Abdraimova, S. M.; Koshkenbaev, B. Kh.; Maksimenko, V. B.; Tazhibayev, Sh. S.

CS Inst. Nutr., Alma-Ata, USSR

SO Vopr. Med. Khim. (1985), 31(5), 87-91

CODEN: VMDKAM; ISSN: 0042-8809

DT Journal

LA Russian

AB In expts. with rats, imbalanced **nutrition** (casein was replaced with gluten and vitamins A [11103-57-4], E [1406-18-4], and C [50-81-7])

were excluded from the diet) decreased activity of blood serum lipoprotein

lipase [9004-02-8] (44.5 vs. 51.5 units), triglyceride lipase [9001-62-1] (31.5 vs. 38.1 units), and glyceride levels (0.4 vs. 0.8 mmol/L) compared to controls with balanced **nutrition**.

Protein-vitamin deficiency markedly increased the level of blood serum low-d. lipoproteins and decreased very-low-d. and high-d. lipoproteins. It decreased the levels of glycerides in very-low-d. lipoproteins and increased them in low-d. lipoproteins. It affected the distribution of cholesterol esters in the lipoprotein classes. Combination of imbalanced **nutrition** with exptl. hypokinesia (restriction of movements for 60 days) markedly decreased the activity of blood serum lipoprotein lipase (to 20.0 units), increased the ratio of high-d. and very-low-d. lipoproteins and decreased that of low-d. lipoproteins and albumins. It also markedly increased the level of triglycerides in very-low-d. and low-d. lipoproteins, and the levels of cholesterol esters in low-d. and very-low-d. lipoproteins (esp. cholesterol arachidonate [604-34-2] in very-low-d. lipoproteins). The transport of cholesterol esters with high-d. lipoproteins decreased. Protein-vitamin deficiency + hypokinesia markedly increased blood serum cholesterol linoleate [604-33-1] and cholesterol linolenate [2545-22-4].

IT 2545-22-4

RL: BIOL (Biological study)

(of blood serum lipoproteins, imbalanced **nutrition** and hypokinesia effect on)

RN 2545-22-4 CAPLUS

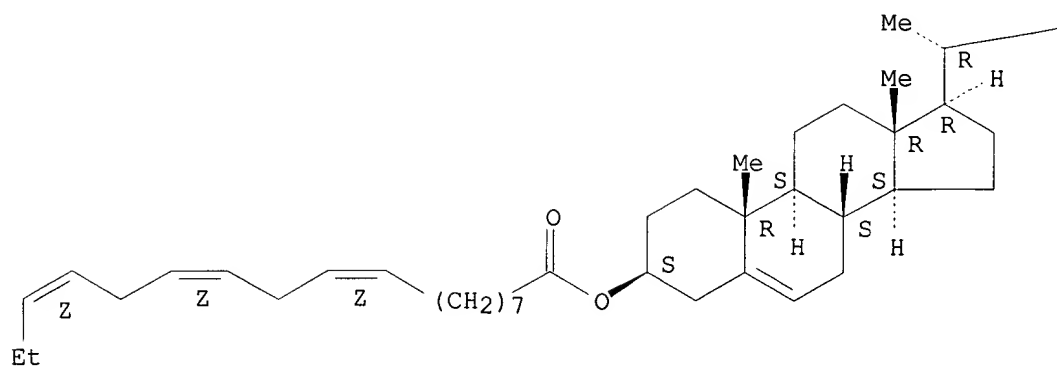
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

(CA INDEX NAME)

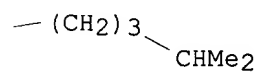
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d 114 bib abs hitstr 11

L14 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1981:99522 CAPLUS

DN 94:99522

TI Uptake and interconversion of cholesterol and cholesteryl esters by
Phytophthora cactorum

AU Elliott, C. G.; Knights, B. A.

CS Bot. Dep., Univ. Glasgow, Glasgow, G12 8QQ, Scot.

SO Lipids (1981), 16(1), 1-7

CODEN: LPDSAP; ISSN: 0024-4201

DT Journal

LA English

AB When cholesterol, cholesteryl palmitate, and cholesteryl acetate were
added individually to sterol-free cultures of P. cactorum, the free
sterol

was at first taken up more rapidly. By 24 h, the uptakes of esters and
free sterol were similar. The 2 esters apparently were taken up by
different mechanisms, since much acetate was found in exts. of the
mycelium at early harvests, but very little palmitate. In cultures
supplemented with a mixt. of cholesterol and cholesteryl
palmitate, the palmitate-derived cholesterol was preferentially
incorporated into the free sterol fraction of mycelial exts. Cholesteryl
palmitate and acetate were both hydrolyzed, and free cholesterol
esterified by filtrates of cultures grown on sterol-free medium.
Reverse-phase chromatog. on hydroxyalkoxypropyl-Sephadex resolved the
sterol esters of mycelial exts. into 3 zones, the most polar comprising
mainly the linolenate ester, the next linoleate, and the least polar
mainly oleate. Linoleate was predominant among the first sterol esters
synthesized by the mycelium whether the **supplement** was free
sterol, palmitate, or acetate. Later, oleate became predominant.

IT 2545-22-4

RL: FORM (Formation, nonpreparative)

(formation of, in Phytophthora cactorum)

RN 2545-22-4 CAPLUS

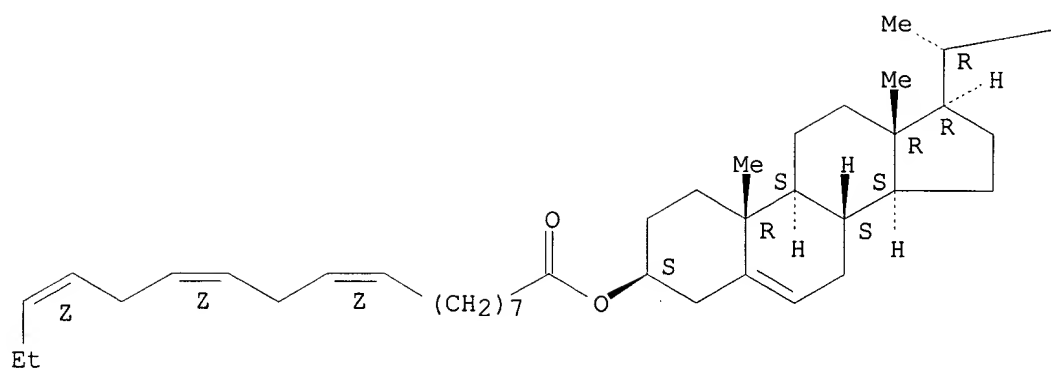
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate
(9CI)

(CA INDEX NAME)

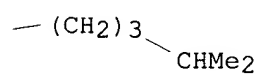
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d 114 bib abs hitstr 12

L14 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2000 ACS

AN 1980:548713 CAPLUS

DN 93:148713

TI Effects of linolenic acid deficiency on the fatty acid patterns in plasma and liver cholesteryl esters, triglycerides and phospholipids in female rats

AU Tinoco, J.; Endemann, G.; Hincenbergs, I.; Medwadowski, B.; Miljanich, P.;

Williams, M. A.

CS Dep. Nutr. Sci., Univ. California, Berkeley, CA, 94720, USA

SO J. Nutr. (1980), 110(7), 1497-505

CODEN: JONUAI; ISSN: 0022-3166

DT Journal

LA English

AB These expts. were performed to measure the effects of linolenic acid [463-40-1] deficiency on neutral lipids of plasma and liver, and to investigate the metabolic interaction between dietary choline [62-49-7] and linolenic acid. Rats were fed for 2 generations on a linolenic acid-deficient diet contg. Me linoleate as the only source of lipid. Control rats were **supplemented** with Me linolenate; 2nd-generation linolenate-deficient rats and control rats were fed low-methionine, choline-deficient diets for 2 wks. Half the animals in each group were given choline-**supplemented** diets. Plasma and liver total cholesterol [57-88-5], esterified cholesterol, triglyceride and major phospholipid classes, and the fatty acids of these classes,

were

measured. Linolenic acid deficiency reduced the concns. of plasma triglycerides in both choline-deficient and choline-**supplemented** rats. Evidence for a metabolic interaction between choline and linolenic acid was not obtained because the rats responded very weakly to the choline deficiency. Linolenate deficiency reduced the proportions of n-3 fatty acids, particularly C22:6

IT 70110-49-5 70110-50-8 74892-97-0

RL: BIOL (Biological study)

(of blood plasma and liver, in linolenic acid deficiency)

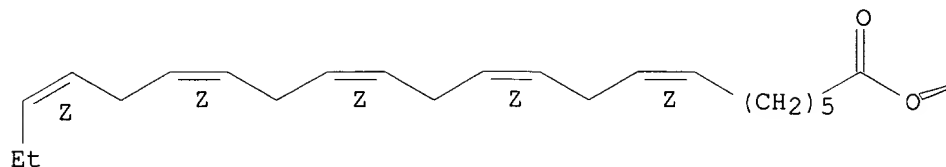
RN 70110-49-5 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (7Z,10Z,13Z,16Z,19Z)-7,10,13,16,19-docosapentaenoate (9CI) (CA INDEX NAME)

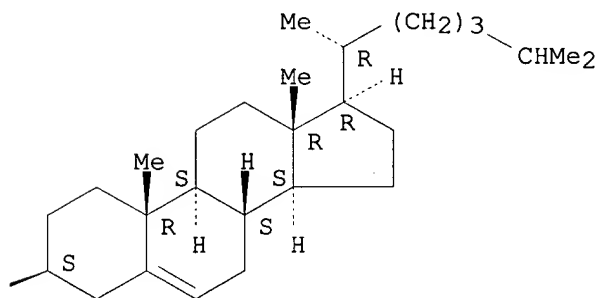
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



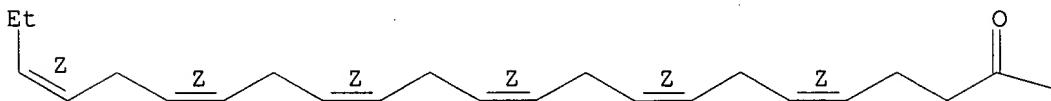
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehenoate (9CI) (CA INDEX NAME)

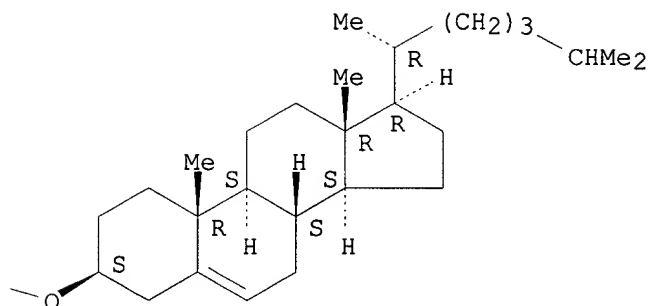
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

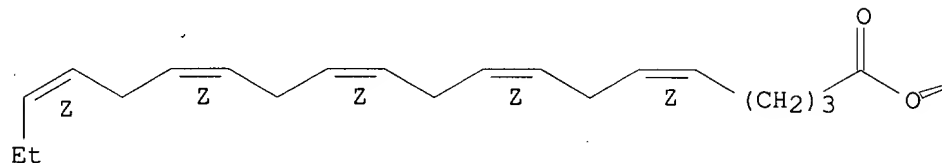


RN 74892-97-0 CAPLUS

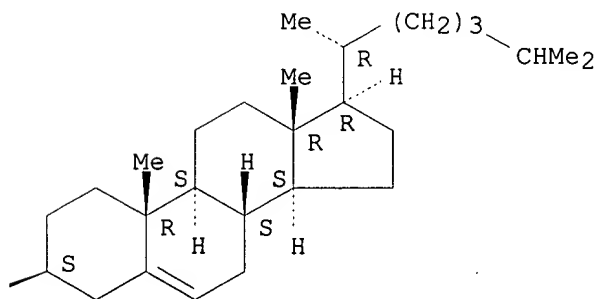
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



Searched by John Dantzman

308-4488

=> d bib abs hitstr

L27 ANSWER 1 OF 2 USPATFULL

AN 97:14692 USPATFULL

TI Compositions containing esters of unsaturated fatty acids

IN Horrobin, David F., Guildford, England

PA Scotia Holdings PLC, England (non-U.S. corporation)

PI US 5604216 19970218

AI US 1994-178553 19940106 (8)

PRAI GB 1993-125 19930106

DT Utility

EXNAM Primary Examiner: Cintins, Marianne M.; Assistant Examiner: Jarvis, William R. A.

LREP Nixon & Vanderhye

CLMN Number of Claims: 13

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 452

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Pharmaceutical and **nutritional** compositions are disclosed containing, in association with a suitable diluent or carrier, at least 10% by weight of a cholesterol fatty acid ester where the fatty acid is gamma-linolenic acid, dihomo-gamma-linolenic acid, adrenic acid, the 22:5 n-6 acid, stearidonic acid, the 20:4 n-3 acid, eicosapentaenoic acid, docosahexaenoic acid, the 22:5 n-3 acid or columbinic acid. Novel cholesterol columbinic acid esters are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 157904-24-0

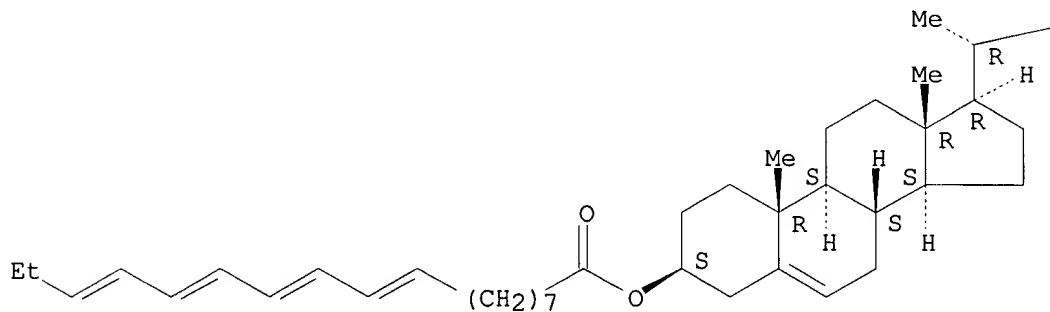
(pharmaceutical and nutritional compns. contg.)

RN 157904-24-0 USPATFULL

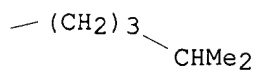
CN Cholest-5-en-3-ol (3.beta.)-, 9,11,13,15-octadecatetraenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



PAGE 1-B



IT 70110-50-8P 74892-97-0P

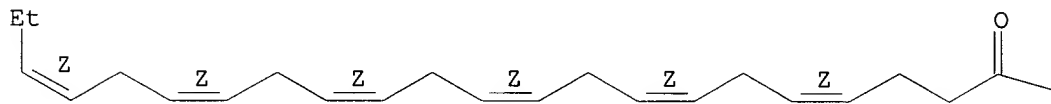
(prepn. of, as therapeutic agent and nutritional supplement)

RN 70110-50-8 USPATFULL

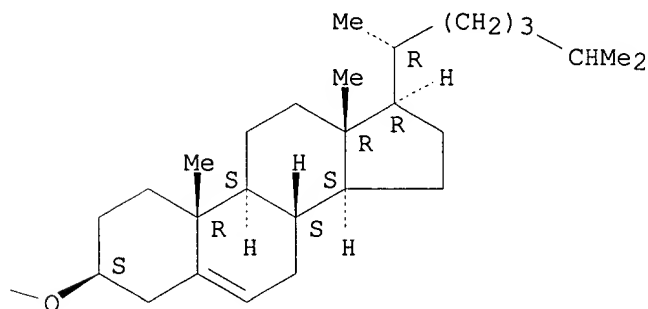
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

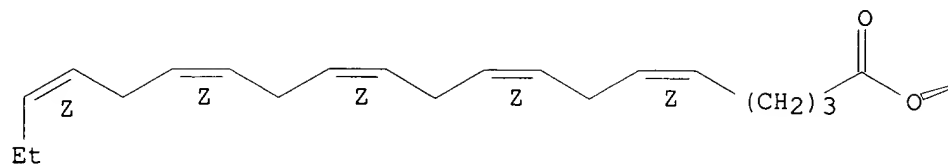


RN 74892-97-0 USPATFULL

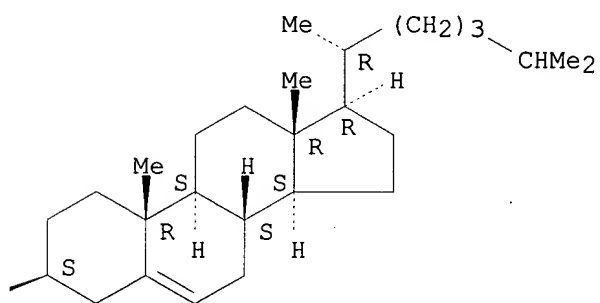
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry..
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d bib abs hitstr 2

L27 ANSWER 2 OF 2 USPATFULL
AN 93:48393 USPATFULL
TI Process for preparing fatty acid esters
IN Myojo, Katsunori, Kakogawa, Japan
Matsufune, Youichi, Kakogawa, Japan
Yoshikawa, Shiro, Ashiya, Japan
PA Yoshikawa Oil & Fat Co., Ltd., Japan (non-U.S. corporation)
PI US 5219733 19930615
AI US 1990-563895 19900807 (7)
RLI Continuation of Ser. No. US 1986-836362, filed on 5 Mar 1986, now
abandoned
PRAI JP 1985-45128 19850306
JP 1985-190543 19850829
JP 1986-7732 19860116
DT Utility
EXNAM Primary Examiner: Marx, Irene
LREP Armstrong, Westerman, Hattori, McLeland & Naughton
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 11 Drawing Page(s)
LN.CNT 2906
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for reacting

(1) a component selected from the group consisting of sterols and
branched aliphatic primary or secondary alcohols having 14 to 32 carbon
atoms, and

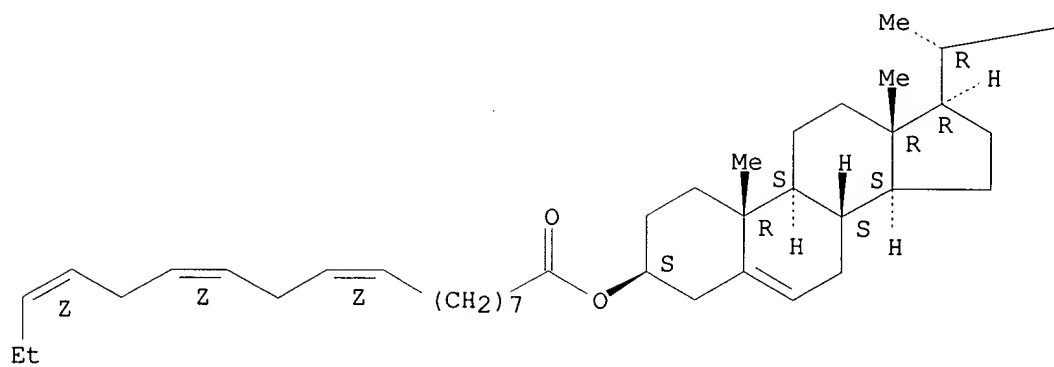
(2) a component selected from the group consisting of fatty acids and
fatty acid esters

in contact with an enzyme selected from the group consisting of lipase
and cholesterol esterase or with the selected enzyme in an immobilized
form, in a system selected from the group consisting of an aqueous
medium and water-containing organic solvent to prepare a fatty acid
ester of the component (1).

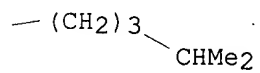
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **2545-22-4P**, Cholesteryl linolenate
(prepn. of, by enzymic esterification)
RN 2545-22-4 USPATFULL
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate
(9CI)
(CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d his

(FILE 'HOME' ENTERED AT 08:06:34 ON 08 FEB 2000)

FILE 'REGISTRY' ENTERED AT 08:06:37 ON 08 FEB 2000

ACT QAZI834/A

L1 STR
L2 SCR 1992 OR 2016 OR 2026 OR 2021
L3 SCR 963 AND 1006 AND 1018 AND 1199
L4 9706 SEA FILE=REGISTRY SSS FUL L1 AND L3 NOT L2

L5 204883 S 4432.3/RID
L6 231 S L4 AND L5
L7 STR L1
L8 50 S L7 SSS SAM SUB=L4
L9 2247 S L7 SSS FUL SUB=L4
L10 60 S L5 AND L9

FILE 'CAPLUS' ENTERED AT 08:14:11 ON 08 FEB 2000

L11 181 S L10
L12 8 S L11 AND NUTRITION?
L13 6 S L11 AND (SUPPLEMENT?)
L14 12 S L12 OR L13
L15 127 S L10 AND (CHOLESTEROL OR TRIGLYCERID?)
L16 11 S L10 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)
L17 21 S L12 OR L13 OR L16

FILE 'REGISTRY' ENTERED AT 08:24:50 ON 08 FEB 2000

L18 2187 S L9 NOT L10

FILE 'CAPLUS' ENTERED AT 08:25:18 ON 08 FEB 2000

L19 100 S L18(L) (STEROL OR SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
S
L20 5 S L18(L) (STIGMASTEROL)
L21 0 S L20 AND (NITRITION? OR SUPPLEMENT?)
L22 0 S L20 AND (NUTRITION?)
L23 0 S L20 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:48:38 ON 08 FEB 2000

L24 2 S L14
L25 1 S L16
L26 2 S L24 OR L25
L27 2 DUP REMOV L26 (0 DUPLICATES REMOVED)

FILE 'REGISTRY' ENTERED AT 08:50:43 ON 08 FEB 2000

FILE 'CAPLUS' ENTERED AT 08:51:05 ON 08 FEB 2000

L28 17995 S L9
L29 20 S L18(L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO
L30 4 S L29(L) (MIXTURE OR ESTER? OR MIXT)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:57:41 ON 08 FEB 2000

Searched by John Dantzman 308-4488

L31 0 S L30

FILE 'REGISTRY' ENTERED AT 08:59:53 ON 08 FEB 2000

L32 31 S L9 AND DOCOSAHEXAENOATE
L33 351 S L9 AND EICOSAPENTAENOIC
L34 382 S L32 OR L33
L35 3 S L34 AND L5

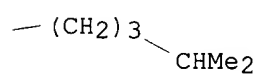
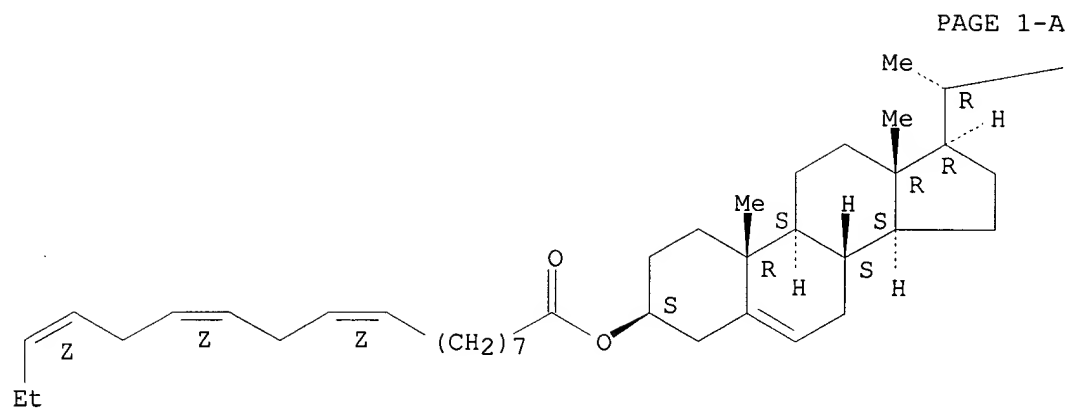
FILE 'CAPLUS' ENTERED AT 09:03:01 ON 08 FEB 2000

L36 40 S L34 AND (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTE
L37 2 S L34(L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO
L38 18 S L34(L) STEROL
L39 23 S L35
L40 25 S L37 OR L39
L41 25 S L37 OR L39 OR L35
L42 25 S L35 OR L37

=> d bib abs hitstr 116

L16 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2000 ACS
AN 1996:760353 CAPLUS
DN 126:115354
TI DSC of DMPC liposomes containing low concentrations of cholesteryl esters or cholesterol
AU Malcolmson, R. J.; Higinbotham, J.; Beswick, P. H.; Privat, P. O.; Saunier, L.
CS Department of Applied Chemical and Physical Sciences, Napier University, 10 Colinton Road, Edinburgh, EH10 5DT, UK
SO J. Membr. Sci. (1997), 123(2), 243-253
CODEN: JMESDO; ISSN: 0376-7388
PB Elsevier
DT Journal
LA English
AB Using differential scanning calorimetry (DSC) the effects of the addn. of 0-3 mol% cholesterol, cholesteryl stearate (18:0), cholesteryl oleate (18:1), cholesteryl linoleate (18:2) or cholesteryl linolenate (18:3) upon the main transition and pretransition of fully hydrated dimyristoylphosphatidylcholine (DMPC) multilamellar liposomes have been measured. The results are interpreted in terms of the std. two-state model for thermal phase transitions. With the exception of cholesteryl stearate all steroids caused, overall, marked changes in the enthalpy and cooperativity of the bilayer main transition and in the enthalpy of the bilayer pretransition. For the esters, the precise nature of the effects and the max. soly. in the bilayers were found to be dependent on the degree of unsatn. in the fatty acyl chain. More specifically, it was obsd. that the solubilities of the esters in the bilayers increased with increasing fatty acyl chain unsatn., but were still **lower** than that of **cholesterol**. Addnl., it was obsd. that while ester incorporation was enhanced in the bilayer liq. cryst. phase, some incorporation also occurred in the gel phase.
IT 2545-22-4, Cholesteryl linolenate
RL: PRP (Properties)
(DSC of DMPC liposomes contg. low concns. of cholesteryl esters or cholesterol)
RN 2545-22-4 CAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)
(CA INDEX NAME)

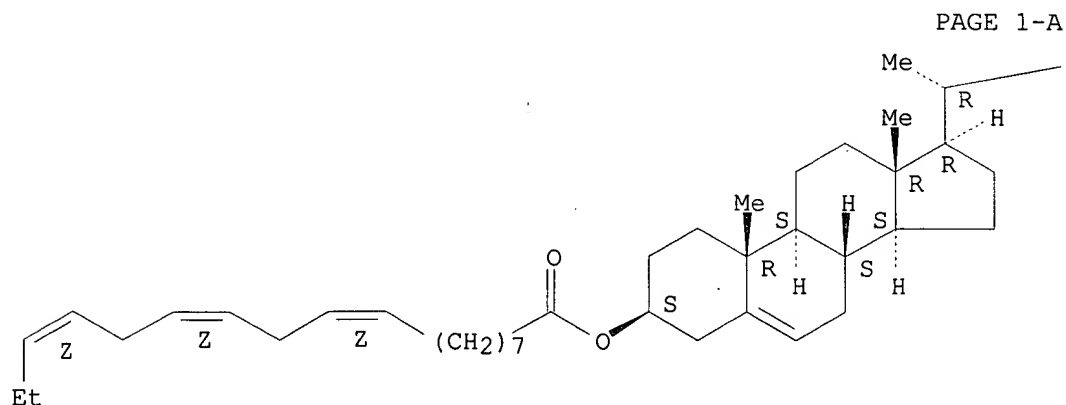
Absolute stereochemistry.
Double bond geometry as shown.



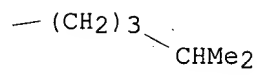
=> d 116 bib abs hitstr 2

L16 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2000 ACS
 AN 1992:17876 CAPLUS
 DN 116:17876
 TI High-performance liquid chromatographic determination of cholesteryl esters in the blood of obese children
 AU Boswart, Jiri; Kostiuik, Pavel; Vymlatil, Jiri; Schmidt, Thomas; Pacakova, Vera; Stulik, Karel
 CS Fac. Med., Charles Univ., Prague, 120 00, Czech.
 SO J. Chromatogr. (1991), 571(1-2), 19-28
 CODEN: JOCRAM; ISSN: 0021-9673
 DT Journal
 LA English
 AB The serum of obese children and adolescents was analyzed for cholesterol esters. The test substances were sepd. first from the sample matrix by solvent extn. and TLC and then resolved in a reversed-phase HPLC system involving a Separon SGX C18 column and a mobile phase of iso-PrOH-MeCN (40:60) with UV detection at 206 nm. Cholesterol and 10-cholesteryl esters could be sepd. and detd. within .apprx.25 min at a flow rate of 1 mL/min. The method was applied to a study of the effect of external conditions (phys. stress, diet) on the content of cholesteryl esters in a test group of obese boys and girls aged from 13 to 16 yr. The analyses demonstrated that the above conditions do not affect the concns. of the individual cholesteryl esters, although the total **cholesterol** concn. **decreased** significantly after spa treatment.
 IT 2545-22-4, Cholesteryl linolenate
 RL: ANT (Analyte); ANST (Analytical study)
 (detn. of, in blood serum of obese children by HPLC)
 RN 2545-22-4 CAPLUS
 CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



PAGE 1-B

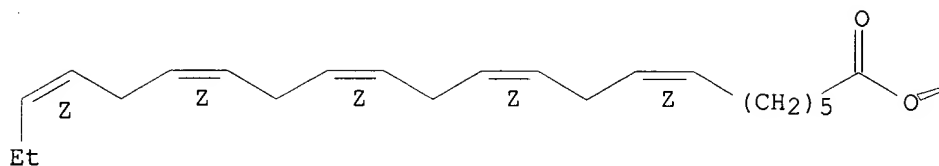


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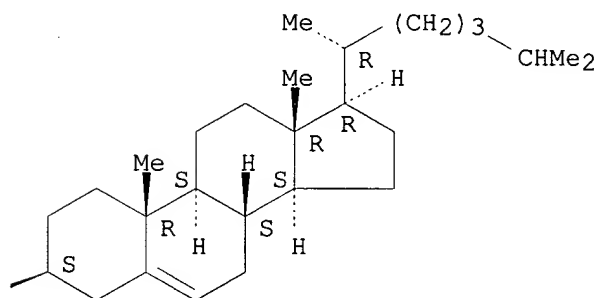
L16 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2000 ACS
AN 1988:111110 CAPLUS
DN 108:111110
TI Plasma triacylglycerol fatty acids in diabetic rats fed gamma-linolenic and marine n-3 fatty acids
AU Huang, Yung Sheng; Horrobin, D. F.
CS Efamol Res. Inst., Kentville, NS, B4N 4H8, Can.
SO Med. Sci. Res. (1987), 15(19), 1207-9
CODEN: MSCREJ
DT Journal
LA English
AB Streptozotocin-diabetic rats were fed fat-free diets supplemented with 29% conc. contg. 84% gamma.-linolenic acid (18:3n-6) and 16% linoleic acid (18:2n-6), 2% fish oil conc. contg. 17.1% eicosapentaenoic acid (20:5n-3), 1.6% docosapentaenoic acid (22:5n-3) and 53.2% docosahexaenoic acid (22:6n-3), or 1% of each conc., and the fatty acid compn. of plasma phospholipids, cholesterol esters, and triglycerides was compared with that of control rats fed the same diets and supplements. The lipid levels in diabetic and control rats on the same diet were similar, but phospholipid and triglyceride levels were lower in both groups fed the n-3 fatty acids. Diabetes-induced changes in satd. and monounsatd. fatty acids of plasma lipids were not affected by diet. In diabetic rats fed 2% C18:3n-6, polyunsatd. fatty acids increased in all lipids, esp. triglycerides. Diabetes elevated the proportions of both n-3 and n-6 fatty acids in triglycerides, and increases in n-3 in rats fed the fish oil conc. were at the expense of n-6. In phospholipids, arachidonic acid (20:4n-6) levels were unchanged and 18:2n-6, 18:3n-6, and eicosatrienoic acid (20:3n-6) were increased. This suggests that .DELTA.6-desaturase and .DELTA.5-desaturase are inhibited in diabetes. Diabetes accentuated the suppression of .DELTA.5-desaturase activity found with the n-3 fatty acid diet. In cholesterol esters in diabetes, n-3 fatty acids were lower than in phospholipids.
IT 70110-49-5 70110-50-8 74892-97-0
RL: BIOL (Biological study)
(of blood plasma, dietary n-3 and n-6 polyunsatd. fatty acids effect on, in diabetes)
RN 70110-49-5 CAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (7Z,10Z,13Z,16Z,19Z)-7,10,13,16,19-docosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

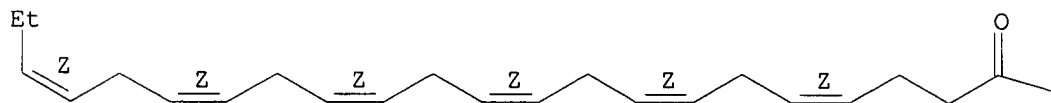


RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

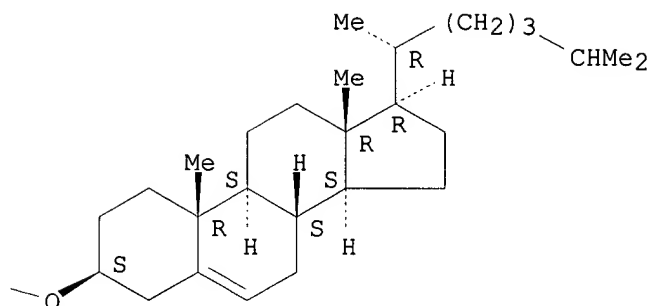
PAGE 1-A



Searched by John Dantzman

308-4488

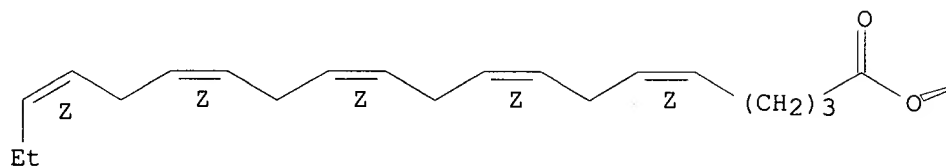
PAGE 1-B



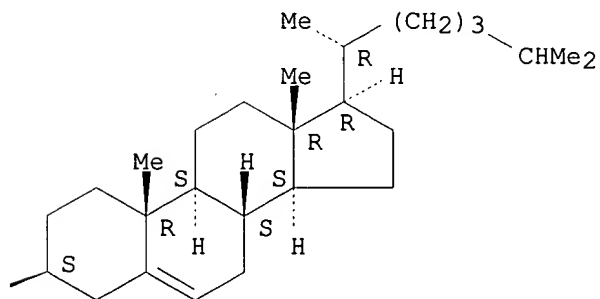
RN 74892-97-0 CAPLUS
 CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



Searched by John Dantzman

308-4488

QAZI

09/385834

Page 8

Searched by John Dantzman

308-4488

=> d 116 bib abs hitstr 4

L16 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2000 ACS

AN 1986:454983 CAPLUS

DN 105:54983

TI Thyroxine induced metabolic changes during heat exposure of cattle fed a restricted intake of lucerne hay

AU O'Kelly, John C.

CS Div. Trop. Anim. Sci., CSIRO, Queensland, 4702, Australia

SO Nutr. Rep. Int. (1986), 33(6), 931-8

CODEN: NURIBL; ISSN: 0029-6635

DT Journal

LA English

AB The metabolic consequences of i.m. injections of thyroxine (T4) [51-48-9]

during const. heat exposure (32.degree.) were studied in Brahman steers fed a restricted intake of lucerne hay. Although, in comparison with the animals at a thermoneutral temp. (24.degree.), heat exposure alone (Ht) increased the loss of urinary N and fecal fat and **lowered** the plasma concns. of **cholesterol** [57-88-5] and phospholipid, these effects were significantly more pronounced when T4 was also administered (Ht+T4). Redns. in the concns. of circulating cholesterol and phospholipid paralleled the changes in the quantities of fatty acids lost in the feces. Ht+T4 increased the plasma concns. of nonesterified fatty acids, glucose, and lactic acid [50-21-5]. Following T4 administration to cattle on restricted feed intakes during heat exposure, the metabolic derangements caused by the stress of moderate heat loads were amplified and coupled with addnl. metabolic defects which reflect manifestations of thyrotoxicosis. Thus, the impaired growth rates of cattle due to that exposure are not likely to be greatly improved by the use of thyroid hormone replacement therapy nor by the use of anabolic compds. which mediate their effects predominantly through increased thyroid activity.

IT 2545-22-4

RL: BIOL (Biological study)

(of blood plasma, of cattle, heat stress in T4 effect on)

RN 2545-22-4 CAPLUS

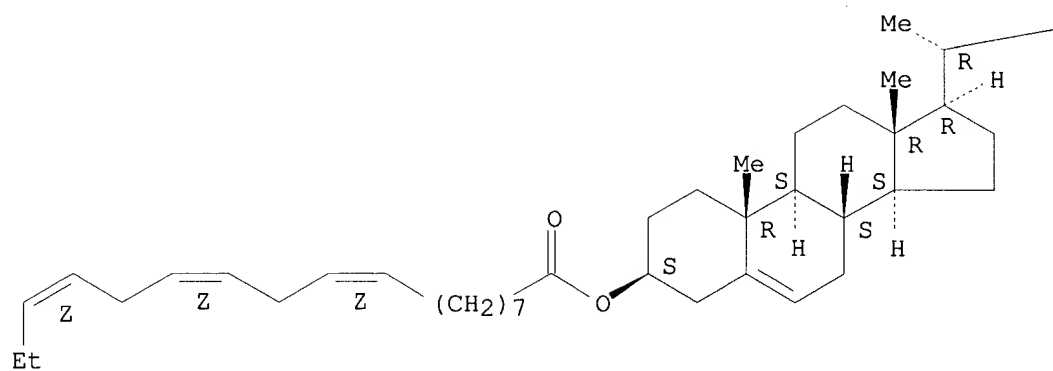
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

(CA INDEX NAME)

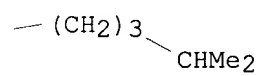
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d 116 bib abs hitstr 5

L16 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2000 ACS

AN 1986:185256 CAPLUS

DN 104:185256

TI The effect of protein-vitamin deficiency on lipolytic enzymes and cholesterol ester synthesis during hypokinesia

AU Koshkenbaev, B. Kh.; Tazhibaev, Sh. S.; Maksimenko, V. B.; Sisemalieva, Zh. S.

CS Kaz. Fil., Inst. Pitan., Alma-Ata, USSR

SO Vopr. Pitan. (1985), (6), 53-7

CODEN: VPITAR; ISSN: 0042-8833

DT Journal

LA Russian

AB Rats (80-100 g) subjected to hypokinesia for 60 days manifested a marked decrease in blood serum lipoprotein lipase [9004-02-8] and triglyceride lipase [9001-62-1] activities compared to rats with normal phys. activity. When hypokinesia was combined with a protein- and vitamin (A [11103-57-4], E [1406-18-4], C [50-81-7]) deficient diet, in addn. to decreased activities of these enzymes, their ratio became abnormal. Hypokinesia, esp. on the unbalanced diet, led to an increase in blood serum very-low-d. and low-d. lipoproteins. Blood serum phospholipids, **triglycerides**, and **cholesterol** esters were **decreased** and free fatty acids increased. Hypokinesia combined with protein-vitamin deficiency increased the level of blood serum cholesterol linoleate [604-33-1] and **cholesterol** linolenate [2545-22-4] and **decreased** that of **cholesterol** palmitate [601-34-3] and cholesterol oleate [303-43-5].

IT 2545-22-4

RL: BIOL (Biological study)

(of blood serum, hypokinesia and protein-vitamin deficiency effect on)

RN 2545-22-4 CAPLUS

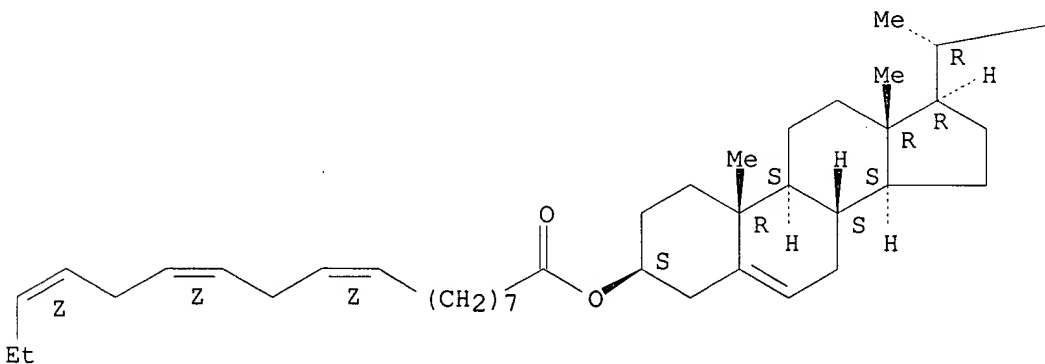
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

(CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



Searched by John Dantzman

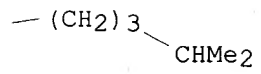
308-4488

QAZI

09/385834

Page 12

PAGE 1-B



=> d 116 bib abs hitstr 6

L16 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2000 ACS

AN 1983:177921 CAPLUS

DN 98:177921

TI Effect of a protein and vitamin dietary insufficiency on the lipid content

of blood serum

AU Abdrashitova, E. Kh.

CS Inst. Pitan, Kazan, USSR

SO Zdravookhr. Kaz. (1983), (2), 27-30

CODEN: ZDKAA8; ISSN: 0372-8277

DT Journal

LA Russian

AB Male rats given wheat gluten as the only dietary protein source had increased serum triglycerides, free fatty acids, total cholesterol esters,

cholesterol ester polyunsatd. fatty acid contents, cholesterol arachidonate [604-34-2], and cholesterol palmitate [601-34-3] as compared with controls given std. mixed feed. A deficiency of vitamin A [11103-57-4], vitamin C [50-81-7], and vitamin E [1406-18-4] also increased serum cholesterol arachidonate. Combined gluten feeding plus vitamin deficiency increased serum high-d. lipoproteins, cholesterol linoleate [604-33-1], and **cholesterol** linolenate [2545-22-4], and **decreased** serum very-low-d.

lipoproteins, phospholipids, cholesterol oleate [303-43-5], and cholesterol palmitate [601-34-3].

IT 2545-22-4

RL: BIOL (Biological study)

(of blood serum, dietary protein imbalance and vitamin deficiencies effect on)

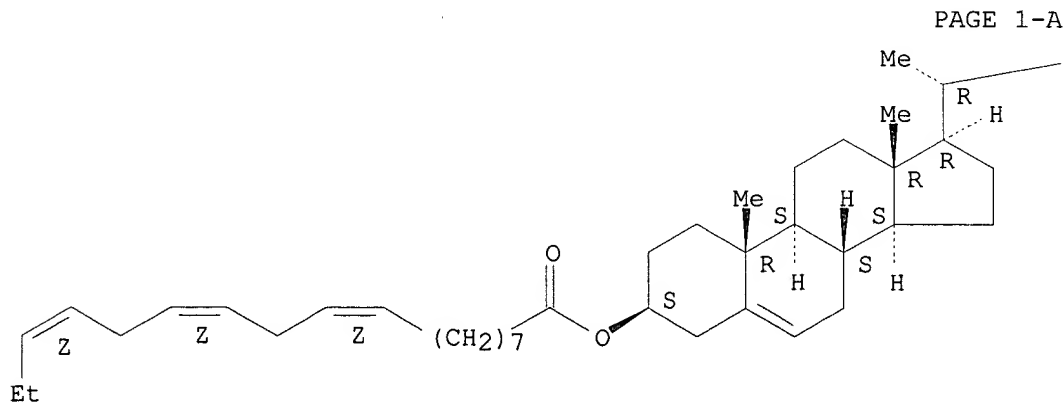
RN 2545-22-4 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

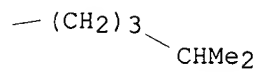
(CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



PAGE 1-B



=> d 116 bib abs hitstr 7

L16 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2000 ACS

AN 1981:1750 CAPLUS

DN 94:1750

TI Incomplete hydrolysis of cholesteryl esters during the enzymic cholesterol

determination as evidenced by aqueous cholesteryl ester solutions:

comparison of six enzymic procedures with the Liebermann-Burchard method

AU Tel, R. M.; Berends, G. T.

CS Clin. Chem. Lab., St. Elisabeth's Hosp., Haarlem, Neth.

SO J. Clin. Chem. Clin. Biochem. (1980), 18(10), 595-601

CODEN: JCCBDT; ISSN: 0340-076X

DT Journal

LA English

AB The total cholesterol concn. of aq. cholesterol and cholesteryl ester solns. was detd. by 6 different enzymic procedures as well as the Liebermann-Burchard method. For some esters (acetate and arachidonate) the esterase reaction is not complete within the usual reaction time, whereas most other esters gave anal. results lower than the theor. With the Liebermann-Burchard method all esters reacted completely within the reaction time. The esterases have very different specificities for the various cholesteryl esters. With the enzymic method several com. control serums as well as human serums gave **lower cholesterol** concns. than the Liebermann-Burchard method. These differences can be explained mainly by this incomplete hydrolysis. Some practical recommendations are given.

IT 2545-22-4

RL: ANT (Analyte); ANST (Analytical study)

(detn. of, in blood serum, hydrolysis in relation to)

RN 2545-22-4 CAPLUS

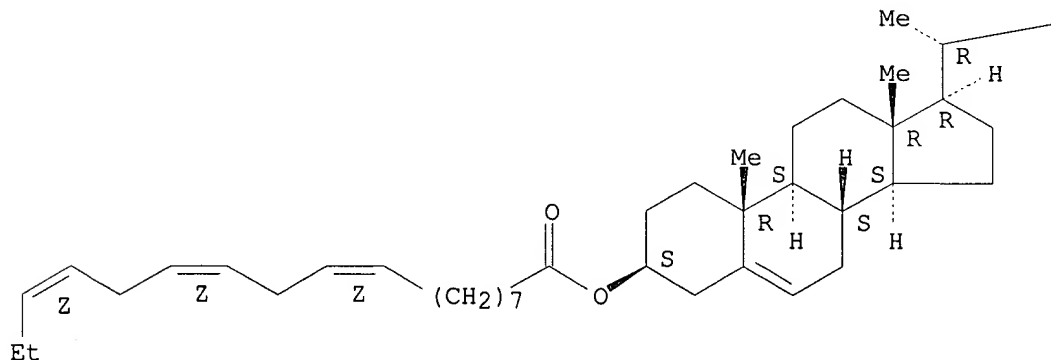
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

(CA INDEX NAME)

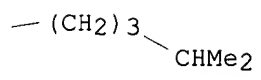
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

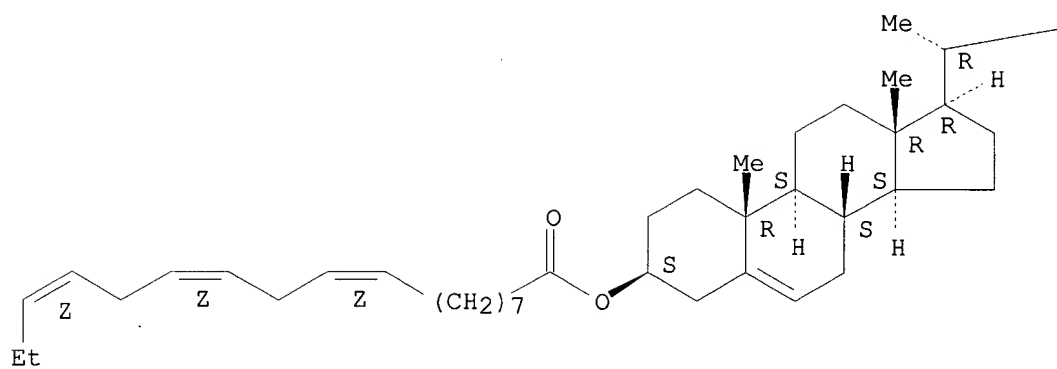


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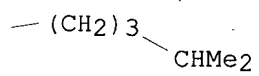
L16 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2000 ACS
AN 1979:165667 CAPLUS
DN 90:165667
TI Effects of cholesterol and cholesterol esters on cell function. II. The effects of various cholesterol esters on the cell membrane and related functions
AU Naito, Mitsuko
CS Med. Sch., Okayama Univ., Okayama, Japan
SO Cell Struct. Funct. (1978), 3(3), 227-35
CODEN: CSFUDY
DT Journal
LA English
AB The effects of free cholesterol and cholesterol esters of acetate, oleate, linoleate, linolenate, palmitate, and stearate were studied in vitro in human red blood cells (RBC) and Ehrlich ascites tumor cells (EATC). During short-term incubation, all of the cholesterol esters were superior to free cholesterol in the suppression of osmotic hemolysis in RBC and in the suppression of DNA synthesis and fluorescein isothiocyanate-conjugated concanavalin A-induced cap formation in EATC. The linoleate ester strongly inhibited K⁺ release from RBC by Pb(OAc)₂, whereas free cholesterol had only a slight effect. EATC incubated with the **cholesterol** esters exhibited **lowered** membrane fluidity. These biol. activities were strongest for the linoleate, linolenate, and palmitate esters, moderate for the oleate and stearate esters, and weak for the acetate ester. Free cholesterol was not inferior to the esters during long-term incubation.
IT 2545-22-4
RL: BIOL (Biological study)
(cell membrane and related functions response to, in Ehrlich ascites cells and erythrocytes)
RN 2545-22-4 CAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)
(CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



=> d 116 bib abs hitstr 9

L16 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2000 ACS

AN 1977:566499 CAPLUS

DN 87:166499

TI Fat emulsions with added free cholesterol or fatty acid cholesteryl esters. Studies on removal mechanisms in vivo and hydrolysis by lipoprotein lipase in vitro

AU Rossner, Stephan; Vessby, Bengt

CS King Gustaf V Res. Inst., Stockholm, Swed.

SO Nutr. Metab. (1977), 21(6), 349-57

CODEN: NUMEBI

DT Journal

LA English

AB The fractional elimination rate of fat emulsions of soybean oil, emulsified with egg yolk phosphatides with 1% addn. of cholesterol [57-88-5] or various cholesteryl fatty acid esters, was studied in rabbits. The fractional removal rate (k_2 , %/min) was the same after addn.

of free cholesterol or esters contg. fatty acids with .ltoreq.8 C atoms. The k_2 values were twice as high for emulsions with cholesteryl stearate [35602-69-8] 3-fold higher with added cholesteryl palmitate [601-34-3]

and

4-fold higher when cholesteryl linoleate [604-33-1] was added. The triglyceride lipase [9001-62-1] activity was detd. with human or rabbit postheparin plasma and with purified bovine lipoprotein lipase. All these

enzyme sources gave similar results. Addn. of satd. cholesteryl esters did not affect the lipase activity, but addn. of 1% **cholesterol** markedly **decreased** the lipase activity. Furthermore, addn. of cholesteryl linoleate and linolenate reduced postheparin triglyceride lipase activity.

IT 2545-22-4

RL: BIOL (Biological study)

(fat metab. in relation to dietary)

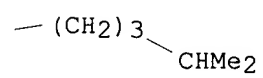
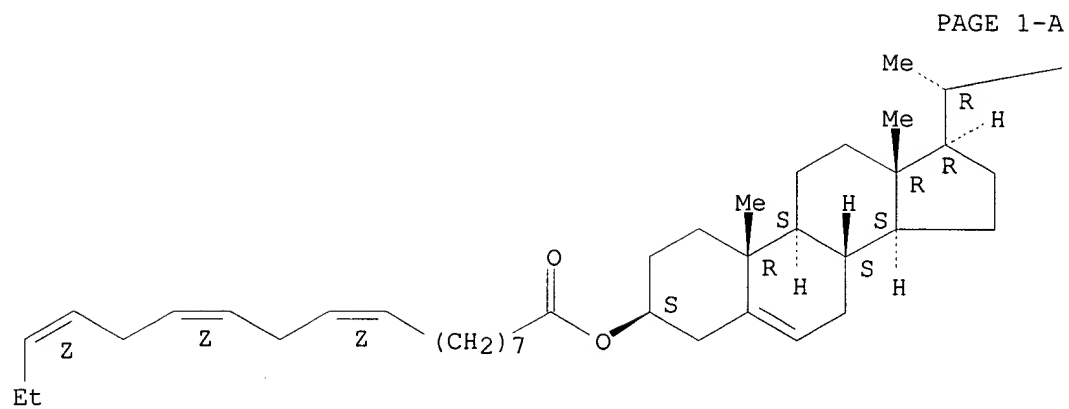
RN 2545-22-4 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

(CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



=> d 116 bib abs hitstr 10

L16 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2000 ACS
AN 1977:50928 CAPLUS
DN 86:50928
TI The effects of ACTH, aminoglutethimide and hypophysectomy on rat adrenal lipids
AU Miyachi, Yukitaka
CS Sch. Med., Univ. Tokyo, Tokyo, Japan
SO Nippon Naibumpi Gakkai Zasshi (1976), 52(10), 973-82
CODEN: NNGZAZ
DT Journal
LA Japanese
AB ACTH [9002-60-2] administration to the rat **decreased** the **cholesterol** ester (I) content of adrenal gland, preferentially cholesteryl arachidonate (II) [604-34-2]. Hypophysectomy or aminoglutethimide (III) [125-84-8] administration suppressed adrenal steroidogenesis and increased adrenal I content. Cholesteryl palmitate [601-34-3], cholesteryl oleate [303-43-5], and cholesteryl linoleate (IV) [604-33-1] were increased and II and cholesteryl docosaenoate (V) [61510-10-9] were decreased in the lipid fraction of adrenal glands from hypophysectomized rats. III administration increased II, IV, and cholesteryl palmitoleate [16711-66-3], and decreased V and cholesteryl docosaenoate [61510-11-0].
IT 61510-11-0
RL: BIOL (Biological study)
(of adrenal gland, ACTH effect on, corticosteroid formation in relation to)
RN 61510-11-0 CAPLUS

=> d 116 bib abs hitstr 11

L16 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2000 ACS

AN 1967:498675 CAPLUS

DN 67:98675

TI Inhibition of fat metabolism during hypnotoxic poisoning

AU Teraoka, Shiro

CS Sch. Med., Nihon Univ., Tokyo, Japan

SO Nichidai Igaku Zasshi (1967), 26(7), 772-83

CODEN: NICHAS

DT Journal

LA Japanese

AB Several organs (brain, liver, kidney, muscle, lung, and heart) from guinea

pigs were analyzed for various lipids by thin-layer chromatography at appropriate intervals after i.p. injection of barbital sodium (40 mg./100 g. body wt.). Amts. of lecithin increased in all the organs tested, but the sphingomyelin decreased in the brain. Levels of free **cholesterol** and free fatty acids **decreased** in the brain but increased in the liver. Concns. of cholesterol stearate, cholesterol oleate, cholesterol linolenate, and palmitic acid increased in the brain and liver, but the fatty acid triglyceride concn. diminished in these 2 organs. The same patterns were also observed in the organs of postmortem subjects from hypnotoxic poisoning.

IT 2545-22-4

RL: BIOL (Biological study)

(in brain and liver in barbital sodium poisoning)

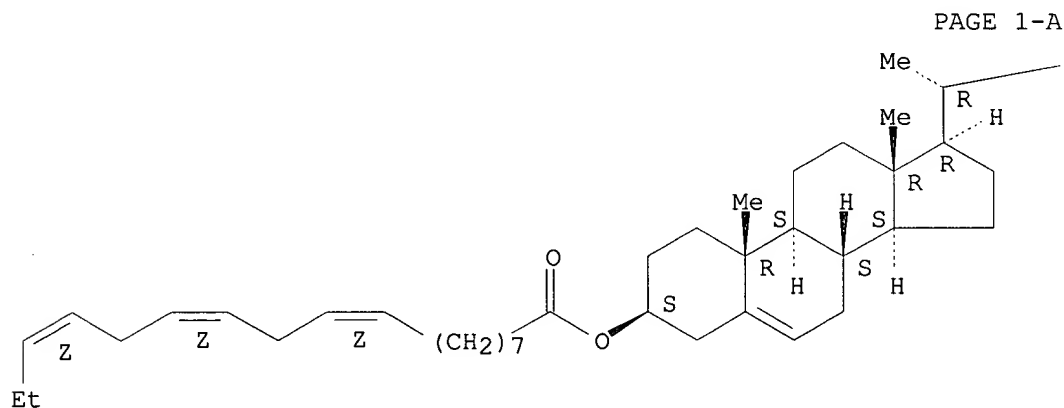
RN 2545-22-4 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (9Z,12Z,15Z)-9,12,15-octadecatrienoate (9CI)

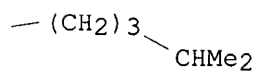
(CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



PAGE 1-B



=> d his

(FILE 'HOME' ENTERED AT 08:06:34 ON 08 FEB 2000)

FILE 'REGISTRY' ENTERED AT 08:06:37 ON 08 FEB 2000
ACT QAZI834/A

L1 STR
L2 SCR 1992 OR 2016 OR 2026 OR 2021
L3 SCR 963 AND 1006 AND 1018 AND 1199
L4 9706 SEA FILE=REGISTRY SSS FUL L1 AND L3 NOT L2

L5 204883 S 4432.3/RID
L6 231 S L4 AND L5
L7 STR L1
L8 50 S L7 SSS SAM SUB=L4
L9 2247 S L7 SSS FUL SUB=L4
L10 60 S L5 AND L9

FILE 'CAPLUS' ENTERED AT 08:14:11 ON 08 FEB 2000

L11 181 S L10
L12 8 S L11 AND NUTRITION?
L13 6 S L11 AND (SUPPLEMENT?)
L14 12 S L12 OR L13
L15 127 S L10 AND (CHOLESTEROL OR TRIGLYCERID?)
L16 11 S L10 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)
L17 21 S L12 OR L13 OR L16

FILE 'REGISTRY' ENTERED AT 08:24:50 ON 08 FEB 2000

L18 2187 S L9 NOT L10

FILE 'CAPLUS' ENTERED AT 08:25:18 ON 08 FEB 2000

L19 100 S L18(L) (STEROL OR SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
S
L20 5 S L18(L) (STIGMASTEROL)
L21 0 S L20 AND (NITRITION? OR SUPPLEMENT?)
L22 0 S L20 AND (NUTRITION?)
L23 0 S L20 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:48:38 ON 08 FEB 2000

L24 2 S L14
L25 1 S L16
L26 2 S L24 OR L25
L27 2 DUP REMOV L26 (0 DUPLICATES REMOVED)

FILE 'REGISTRY' ENTERED AT 08:50:43 ON 08 FEB 2000

FILE 'CAPLUS' ENTERED AT 08:51:05 ON 08 FEB 2000

L28 17995 S L9
L29 20 S L18(L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO
L30 4 S L29(L) (MIXTURE OR ESTER? OR MIXT)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:57:41 ON 08 FEB 2000

Searched by John Dantzman 308-4488

L31 0 S L30

FILE 'REGISTRY' ENTERED AT 08:59:53 ON 08 FEB 2000

L32 31 S L9 AND DOCOSAHEXAENOATE

L33 351 S L9 AND EICOSAPENTAENOIC

L34 382 S L32 OR L33

L35 3 S L34 AND L5

FILE 'CAPLUS' ENTERED AT 09:03:01 ON 08 FEB 2000

L36 40 S L34 AND (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTE

L37 2 S L34(L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO

L38 18 S L34(L) STEROL

L39 23 S L35

L40 25 S L37 OR L39

L41 25 S L37 OR L39 OR L35

L42 25 S L35 OR L37

=> d bib abs hitstr

L30 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2000 ACS

AN 1999:245134 CAPLUS

DN 130:281295

TI Effect of a phytosterol mixture diet on the plasma level of fatty acids in

hypercholesterolemic rats (PHHC)

AU Ambrosova, Z.; Vozar, I.; Ciernik, M.; Svec, P.; Kyselovic, J.

CS Inst. Chem. Clinical Biochem, Medical Fac., Comenius Univ., Bratislava, 83232, Slovakia

SO Pharmazie (1999), 54(4), 312-313

CODEN: PHARAT; ISSN: 0031-7144

PB Govi-Verlag Pharmazeutischer Verlag

DT Journal

LA English

AB Hyper- (HYCH) and normocholesterolemic (NOCH) rats received feed supplemented with a phytosterol mixt. (21 mg/kg; .beta.-sitosterol 65%, stigmastanol 18%, campesterol 14%, and campestanol 3%) for 60 days to investigate fatty acid changes. The blood plasma levels of satd. acids (palmitic and stearic) partially decreased in both rat strains. In HYCH rats the satd./unsatd. fatty acids plasma ratio has changed in favor of unsatd. fatty acids for both free and bound forms, in

normocholesterolemic

rats this ratio was changed for free forms of fatty acids. Compared with HYCH rats maintained on normal feed, HYCH rats on phytosterols showed decreased plasma levels for bound oleic acid, free oleic acid, bound linoleic acid, bound linoleic acid, and bound arachidonic acid by 3.96, 8.99, 7.31, 20.9, and 22.96%, resp., and increased plasma levels for free linoleic acid, free linoleic acid, and free arachidonic acid by 7.1, 99.35, and 10.93%, resp.

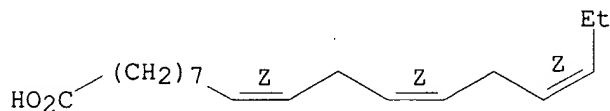
IT 463-40-1, Linolenic acid

RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(**phytosterol mixt.** diet effect on the blood plasma
fatty acids in hypercholesterolemia)

RN 463-40-1 CAPLUS

CN 9,12,15-Octadecatrienoic acid, (9Z,12Z,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



=> d bib abs hitstr 2

L30 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1986:624716 CAPLUS
DN 105:224716.
TI Determination of content of linseed oil in edible soybean oil
AU Manandhar, Poorna P.; Nagao, Akihiko; Yamazaki, Megumi
CS Cent. Food Res. Lab., Minist. Agric., Nepal, Katmandu, Nepal
SO Yukagaku (1986), 35(9), 725-30
CODEN: YKGKAM; ISSN: 0513-398X
DT Journal
LA English
AB A method for detecting and computing the quantity of adulterant linseed oil in soybean oil was developed by detg. the fatty acid, sterol, and tocopherol compns. of the oils and their **mixts**. In adulterated oil samples, a decrease in linoleic acid [60-33-3] and increase in linolenic acid [**463-40-1**] content were obsd. with increases in the amt. of linseed oil. Anal. of sterol constituents of linseed oil showed a characteristic component with a retention time of 78 min, which was also obsd. for the oil **mixts**. A marked decrease in **stigmasterol** [83-48-7] content was obsd. with increasing linseed oil content. Anal. of tocopherols showed the linseed oil to be higher in .beta.-tocopherol [148-03-8] than soybean oil; there was a significant increase in .beta.-tocopherol content with an increase in linseed oil. The limit of detection was 5-10% linseed oil in soybean oil.

=> d bib abs hitstr 3

L30 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2000 ACS
 AN 1986:502602 CAPLUS
 DN 105:102602
 TI Vitamin supplements and diet pills.
 IN Mitchell, David C.
 PA Mitchell, David C., Medical Research Institute, USA
 SO U.S., 24 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4588717	A	19860513	US 1984-620131	19840613
	US 4705875	A	19871110	US 1986-847423	19860401
PRAI	US 1984-620131		19840613		

AB Vitamin supplements include phytosterol esters and(or) substituted fructose compds. Diet pills include antitrypsin and may be combined with the vitamin supplements. The phytosterol esters are introduced into the animal or plant, then converted to steroids and hormones by the cells of the animal or plant, thereby minimizing the adverse side effects of steroids and hormones as well as minimizing the stress placed on the cells

and extending their longevity. The substituted fructose compds. are obtained by substituting a single atom of a mineral e.g. Ca, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, P, Se, Sn, V, or Zn, for the no. 6 C in the fructose ring structure. The diet pills serve to reduce the absorption of carbohydrates ingested by an individual into the body. The use of the diet pills does not cause anxiety, irritability, or insomnia. Thus, linoleic acid ester of sitosterol was prepd. by reacting sitosterol with linoleic acid in the presence of ascorbic acid acting as an antioxidant and Ca propionate acting as a preservative. The obtained ester was mixed with Ca lactate and made into a pill. A Ca(2+)-substituted fructose was prepd. by reacting Ca(OH)2 in glycerol with fructose and followed by addn.

of steapsin enzyme. The obtained compd. was mixed with Ca lactate and compressed into a pill. Animal expts. with rats proved the effectiveness of the vitamin supplements and the diet pills.

IT **463-40-1DP, phytosterol esters**

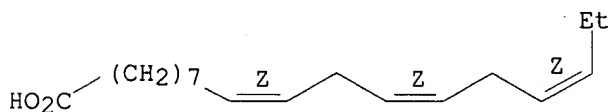
RL: PREP (Preparation)

(prepn. of, as vitamin supplement)

RN 463-40-1 CAPLUS

CN 9,12,15-Octadecatrienoic acid, (9Z,12Z,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



QAZI 09/385834

Page 4

Searched by John Dantzman

308-4488

=> d bib abs hitstr 4

L30 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1981:119702 CAPLUS
DN 94:119702
TI Characteristics of soybean oil by thin-layer chromatography
AU Wahid, M. A.; Huq, M. S.
CS Bangladesh Agric. Res. Council, Dacca, Bangladesh
SO Bangladesh J. Agric. (1979), 4(1), 39-46
CODEN: BJOADD
DT Journal
LA English
AB Soybean oil was extd. from soybeans (Bragg variety) and the phys. and chem. characteristics studied. The Me **esters** of the oil were fractionated by argentation chromatog. (TLC and column). Four fractions were obtained. Palmitic [57-10-3], stearic [57-11-4], oleic [112-80-1], linoleic [60-33-3] and linolenic acid [**463-40-1**] were the main constituent fatty acids of the oil. Campesterol [474-62-4], **stigmasterol** [83-48-7], and .beta.-**sitosterol** [83-46-5] were identified by TLC in the sterol fraction.

=> d his

(FILE 'HOME' ENTERED AT 08:06:34 ON 08 FEB 2000)

FILE 'REGISTRY' ENTERED AT 08:06:37 ON 08 FEB 2000
ACT QAZI834/A

L1 STR
L2 SCR 1992 OR 2016 OR 2026 OR 2021
L3 SCR 963 AND 1006 AND 1018 AND 1199
L4 9706 SEA FILE=REGISTRY SSS FUL L1 AND L3 NOT L2

L5 204883 S 4432.3/RID
L6 231 S L4 AND L5
L7 STR L1
L8 50 S L7 SSS SAM SUB=L4
L9 2247 S L7 SSS FUL SUB=L4
L10 60 S L5 AND L9

FILE 'CAPLUS' ENTERED AT 08:14:11 ON 08 FEB 2000

L11 181 S L10
L12 8 S L11 AND NUTRITION?
L13 6 S L11 AND (SUPPLEMENT?)
L14 12 S L12 OR L13
L15 127 S L10 AND (CHOLESTEROL OR TRIGLYCERID?)
L16 11 S L10 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)
L17 21 S L12 OR L13 OR L16

FILE 'REGISTRY' ENTERED AT 08:24:50 ON 08 FEB 2000

L18 2187 S L9 NOT L10

FILE 'CAPLUS' ENTERED AT 08:25:18 ON 08 FEB 2000

L19 100 S L18(L) (STEROL OR SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
S
L20 5 S L18(L) (STIGMASTEROL)
L21 0 S L20 AND (NITRITION? OR SUPPLEMENT?)
L22 0 S L20 AND (NUTRITION?)
L23 0 S L20 AND (CHOLESTEROL OR TRIGLYCERID?) (4A) (LOWER? OR
DECREAS?)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:48:38 ON 08 FEB 2000

L24 2 S L14
L25 1 S L16
L26 2 S L24 OR L25
L27 2 DUP REMOV L26 (0 DUPLICATES REMOVED)

FILE 'REGISTRY' ENTERED AT 08:50:43 ON 08 FEB 2000

FILE 'CAPLUS' ENTERED AT 08:51:05 ON 08 FEB 2000

L28 17995 S L9
L29 20 S L18(L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO
L30 4 S L29(L) (MIXTURE OR ESTER? OR MIXT)

FILE 'BIOSIS, MEDLINE, USPATFULL' ENTERED AT 08:57:41 ON 08 FEB 2000

Searched by John Dantzman 308-4488

L31 0 S L30

FILE 'REGISTRY' ENTERED AT 08:59:53 ON 08 FEB 2000

L32 31 S L9 AND DOCOSAHEXAENOATE
L33 351 S L9 AND EICOSAPENTAENOIC
L34 382 S L32 OR L33
L35 3 S L34 AND L5

FILE 'CAPLUS' ENTERED AT 09:03:01 ON 08 FEB 2000

L36 40 S L34 AND (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTE
L37 2 S L34(L) (SITOSTEROL OR FUCOSTEROL OR PHYTOSTEROL OR
STIGMASTERO
L38 18 S L34(L) STEROL
L39 23 S L35
L40 25 S L37 OR L39
L41 25 S L37 OR L39 OR L35
L42 25 S L35 OR L37

=> d 142 bib abs hitstr 1-25

L42 ANSWER 1 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1999:416035 CAPLUS

DN 131:243460

TI Enzymatic synthesis of steryl esters of polyunsaturated fatty acids

AU Shimada, Yuji; Hirota, Yoshinori; Baba, Takashi; Sugihara, Akio;

Moriyama,

Shigeru; Tominaga, Yoshio; Terai, Tadamasa

CS Osaka Municipal Technical Research Institute, Osaka, 536-8553, Japan

SO J. Am. Oil Chem. Soc. (1999), 76(6), 713-716

CODEN: JAOCA7; ISSN: 0003-021X

PB AOCs Press

DT Journal

LA English

AB Steryl esters of long-chain fatty acids have water-holding properties, and

polyunsatd. fatty acids (PUFA) have various physiol. functions. Because steryl ester of PUFA can be expected to have both features, we attempted to synthesize steryl esters of PUFA by enzymic methods. Among lipases used, *Pseudomonas* lipase was the most effective for the synthesis of cholesteryl docosaheptaenoate. When a mixt. of

cholesterol/docosaheptaenoic acid (3:1, mol/mol), 30% water, and 3000 units/g of lipase was stirred at 40.degree.C for 24 h, the esterification extent attained 89.5%. Under

the same reaction conditions, cholesterol, cholestanol, and sitosterol were also esterified efficiently with docosaheptaenoic, eicosapentaenoic, arachidonic, and .gamma.-linolenic acids.

IT 70110-50-8P, Cholesteryl all-(Z)-4,7,10,13,16,19-docosaheptaenoate

244258-45-5P, Cholestanyl all-(Z)-4,7,10,13,16,19-docosaheptaenoate

244258-49-9P, Sitosteryl all-(Z)-4,7,10,13,16,19-docosaheptaenoate

RL: BPN (Biosynthetic preparation); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(enzymic synthesis of steryl esters of polyunsatd. fatty acids with *Pseudomonas* lipases)

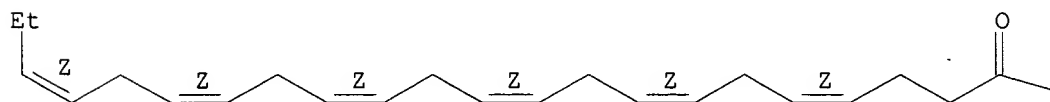
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaheptaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

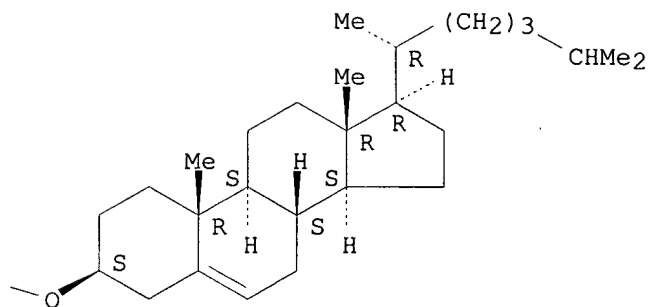
PAGE 1-A



Searched by John Dantzman

308-4488

PAGE 1-B

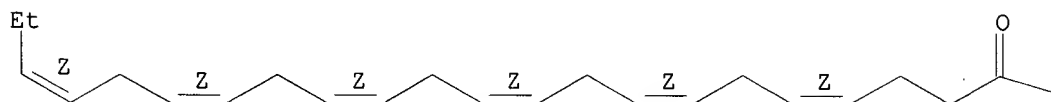


RN 244258-45-5 CAPLUS

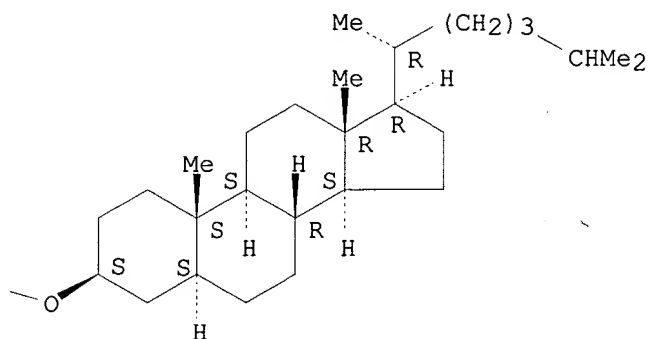
CN Cholestan-3-ol, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaheptaenoate, (3.beta.,5.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

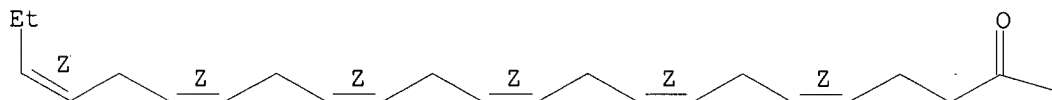


RN 244258-49-9 CAPLUS

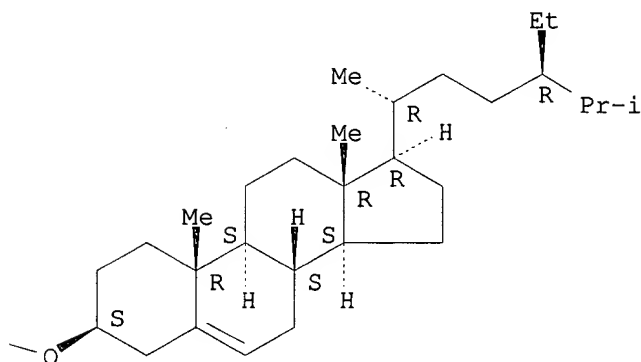
CN Stigmast-5-en-3-ol, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehaenoate, (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 2 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1998:593003 CAPLUS

DN 129:311064

TI Effects of prolonged ACTH-stimulation on adrenocortical cholesterol reserve and apolipoprotein E concentration in young and aged Fischer 344 male rats

AU Cheng, Behling; Chou, Shui-Chou; Abraham, Susamma; Kowal, Jerome

CS Department of Medicine, School of Medicine and Veterans Affairs Medical Center, Case Western Reserve University, Cleveland, OH, 44106, USA

SO J. Steroid Biochem. Mol. Biol. (1998), 66(5-6), 335-345

CODEN: JSBBEZ; ISSN: 0960-0760

PB Elsevier Science Ltd.

DT Journal

LA English

AB Changes in the morphol. of rat adrenal cortex with age include accumulations of lipid droplets and lipofuscin granules. Because glandular concns. of cholesteryl esters (CE) and apolipoprotein (apo) E are also increased in parallel, the utilization or metab. of

lipid-droplet

stored CE for steroidogenesis might be altered in aging cells. To explore

this possibility, adrenocortical cholesterol storage and utilization were studied in 3-6 mo-old (Y) rats and 20-23 mo-old (O) Fischer 344 male

rats.

Both groups received either ACTH (ACTH-1-39, Acthar gel) or gelatin alone daily for seven consecutive days. The authors found that the CE concn.

in

O rats, but not Y animals, was diminished by ACTH. The depleted CE in stimulated O rats was replenished within five days post stimulation. Failure to deplete CE in stimulated Y rats was not assocd. with an insufficient dose of the hormone, since stimulation of Y animals with higher doses of ACTH actually increased the CE concn. In contrast, adrenocortical free cholesterol concn. remained const. during stimulation regardless of age. The depleted CE in stimulated O rats was principally comprised of cholesteryl adrenate, cholesteryl arachidonate and cholesteryl cervonate. The accumulated CE in stimulated Y animals was primarily comprised of cholesteryl adrenate, cholesteryl arachidonate and cholesteryl oleate. Whereas in stimulated Y rats adrenal apoE concn.

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declined, the concn. in stimulated O animals was well maintained. In vitro, adrenal homogenate or cytosolic fraction from stimulated O rats displayed a higher capacity to hydrolyze exogenous CE than its Y counterpart. However, cholesterol esterification with external fatty acid substrates in adrenal homogenate or microsomal fraction was comparable in the two age groups. The authors' findings revealed altered adrenocortical cholesterol reserve in O rats to cope with prolonged ACTH stimulation. Changes in apoE levels and CE hydrolysis activity may be factors assocd. with this alteration. Depletion and accumulation of adrenocortical CE are reflected in parallel changes in cholesteryl adrenate and cholesteryl arachidonate, suggesting physiol. importance of these polyunsatd. fatty acids during sustained steroidogenesis.

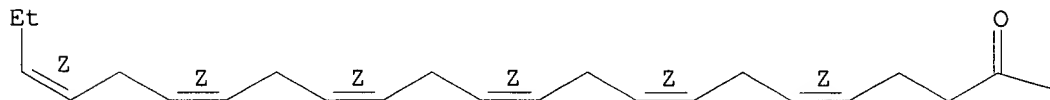
IT **70110-50-8**, Cholesteryl cervonate
 RL: BOC (Biological occurrence); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence) (ACTH stimulation effect on adrenal cortex cholesterol reserve and apolipoprotein E concn. in young and aged male rats)

RN 70110-50-8 CAPLUS

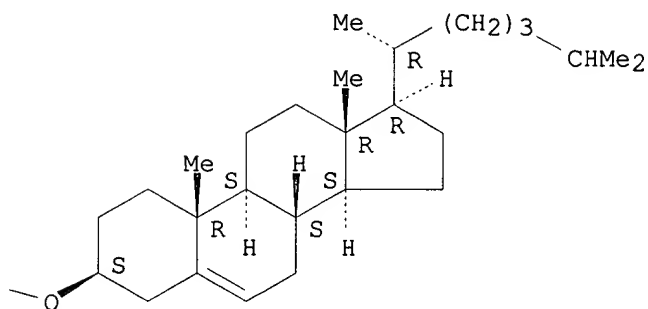
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

PAGE 1-A



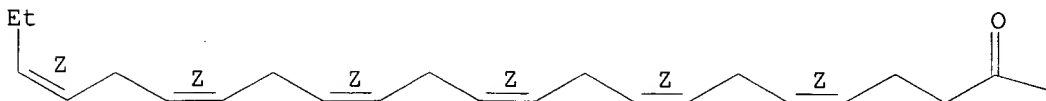
PAGE 1-B



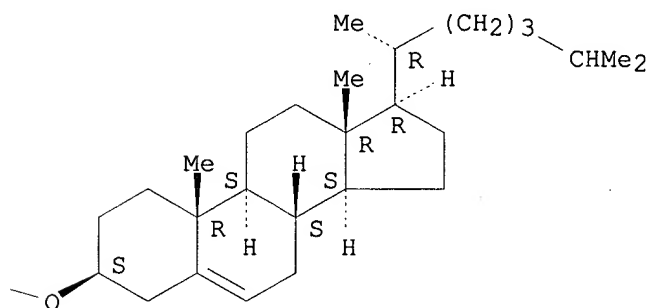
L42 ANSWER 3 OF 25 CAPLUS COPYRIGHT 2000 ACS
 AN 1998:588498 CAPLUS
 DN 129:288109
 TI Sexual dimorphism in the fatty acyl composition of rat adrenal lipids
 AU Ruiz, J. I.; Ruiz-Larrea, M. B.
 CS Department of Pediatrics, Laboratory of Infant Metabolism, Cruces
 Hospital, Barakaldo, 48903, Spain
 SO Biochem. Soc. Trans. (1998), 26(3), S218
 CODEN: BCSTB5; ISSN: 0300-5127
 PB Portland Press Ltd.
 DT Journal
 LA English
 AB The authors report the fatty acid profile of cholesterol esters,
 triglycerides, and phospholipids from male and female rat adrenal glands.
 Cholesteryl adrenate is stored as the main sterol ester in the adrenal
 gland, and was almost 2-fold higher in female than in male glands.
 C22:4n-6 was the major fatty acid found in the adrenal triglycerides and
 phospholipids, with an even higher difference (.apprx.3-fold) between
 males and females when compared to the cholesterol ester fraction.
 IT **70110-50-8**
 RL: BOC (Biological occurrence); BIOL (Biological study); OCCU
 (Occurrence)
 (sexual dimorphism in fatty acyl compn. of rat adrenal lipids)
 RN 70110-50-8 CAPLUS
 CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-
 docosaehaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 4 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1997:371585 CAPLUS

DN 127:33318

TI Cholesterol fatty esters for promotion growth of shrimp

IN Matsufune, Yoichi; Nakajima, Jun; Tejima, Shinichi

PA Nippon Shoe Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09084527	A2	19970331	JP 1995-244123	19950922

OS MARPAT 127:33318

AB Cholesterol fatty esters (I) contg. (un)branched C8-22 (un)satd. fatty acid are used for manufg. feed for shrimp for promotion of growth.

Manuf.

of I from soybean fatty acid and eicosapentaenoic and docosahexaenoic acid

was shown. Also shown was the promotion of growth of shrimp with I-contg.

feed.

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IT 70110-50-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(cholesterol fatty esters for promotion growth of shrimp)

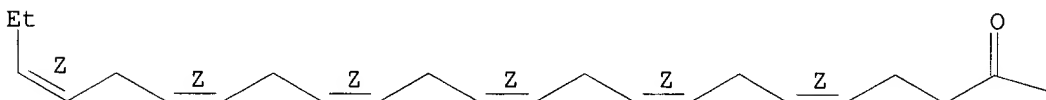
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

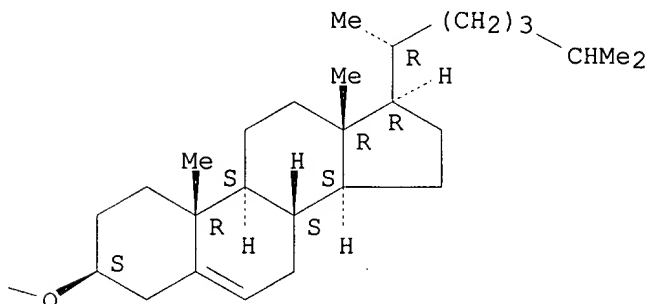
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 5 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1997:343579 CAPLUS

DN 127:80676

TI Toxicity of polyunsaturated fatty acid esters for human
monocyte-macrophages: the anomalous behavior of cholesteryl linolenateAU Hardwick, Simon J.; Carpenter, Keri L. H.; Law, Nadine S.; van der Veen,
Carina; Marchant, Christine E.; Hird, Rachel; Mitchinson, Malcolm J.

CS Dep. Pathol., Univ. Cambridge, Cambridge, CB2 1QP, UK

SO Free Radical Res. (1997), 26(4), 351-362

CODEN: FRARER; ISSN: 1071-5762

PB Harwood

DT Journal

LA English

AB The toxicity to human monocyte-macrophages and susceptibility to oxidn.
of Searched by John Dantzman 308-4488

different individual dietary fatty acids in cholesterol esters and triglycerides added to cell cultures as coacervates with bovine serum albumin was investigated. Toxicity was assessed using release of radioactivity from cells preloaded with tritiated adenine. Lipid oxidn. was measured by gas chromatog. The triglycerides showed a direct relation between toxicity and increasing unsatn., which in turn correlated with increasing susceptibility to oxidn. Triolein (18:1; .omega.-3) was toxic only after prolonged incubation. Triarachidonin (20:4; .omega.-6), trieicosapentaenoin (20:5; .omega.-3), and tridocosahexaenoin (22:6; .omega.-3) were profoundly and rapidly toxic. There was a similar relation between toxicity and increasing unsatn. for most of the cholesterol esters, but cholesteryl linolenate was apparently anomalous, being non-toxic in spite of possessing 3 double bonds and being extensively oxidized. Probucol and DL-.alpha.-tocopherol conferred protection against the toxicity of cholesteryl arachidonate and triarachidonin. The oxidn. in these expts. was largely independent of the presence of cells. GC indicated that formation of 7-oxysterols might contribute to the toxicity of cholesteryl linoleate. The toxicity of triglycerides suggests that polyunsatd. fatty acid peroxidn. products are also toxic. Possible mechanisms of cytotoxicity and relevance to atherosclerosis are discussed.

IT 70110-50-8

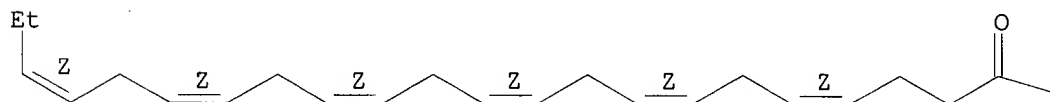
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(toxicity of polyunsatd. fatty acid esters for human monocyte-macrophages)

RN 70110-50-8 CAPLUS

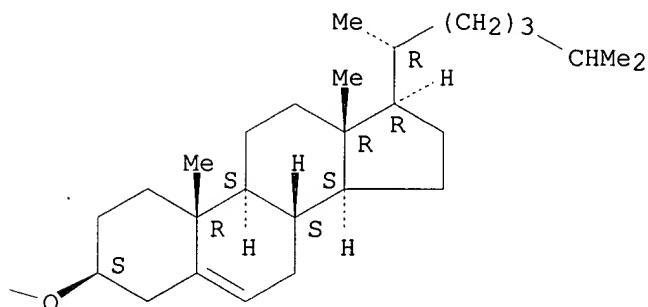
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 6 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1996:703956 CAPLUS

DN 126:26478

TI .beta.-Sitosterol inhibits HT-29 human colon cancer cell growth and alters

membrane lipids

AU Awad, Atif B.; Chen, Ying-Chen; Fink, Carol S.; Hennessey, Todd

CS Nutrition Program, State University New York, Buffalo, NY, 14214, USA

SO Anticancer Res. (1996), 16(5A), 2797-2804

CODEN: ANTRD4; ISSN: 0250-7005

PB Anticancer Research

DT Journal

LA English

AB The purpose of the present study was to examine the effect of .beta.-sitosterol, the main dietary phytosterol on the growth of HT-29 cells, a human colon cancer cell line. In addn., the incorporation of this phytosterol into cellular membranes and how this might influence the lipid compn. of the membranes were investigated. Tumor cells were grown in Dulbecco's Modified Eagle media contg. 10% FBS and supplemented with sterols (cholesterol or .beta.-sitosterol) at final concns. .ltoreq.16 .mu.M. The sterols were supplied to the media in the form of sterol cyclodextrin complexes. The cyclodextrin used was

2-hydroxypropyl-.beta.-

cyclodextrin. The sterol to cyclodextrin molar ratio was maintained at 1:300. The study indicated that 8 and 16 .mu.M .beta.-sitosterol were effective at cell growth inhibition as compared to cholesterol or to the control (no sterol supplementation). After supplementation with 16 .mu.M .beta.-sitosterol for 9 days, cell growth was only one-third that of

cells

supplemented with equimolar concn. of cholesterol. No effect was obsd.

on

total membrane phospholipid concn. At 16 .mu.M .beta.-sitosterol supplementation, membrane cholesterol was reduced by 26%. Cholesterol supplementation resulted in a significant increase in the cholesterol/phospholipid ratio compared to either .beta.-sitosterol supplemented cells or controls. There was a 50% redn. in membrane sphingomyelin (SM) of cells grown in 16 .mu.M .beta.-sitosterol. Addnl. changes were obsd. in the fatty acid compn. of minor phospholipids of .beta.-sitosterol supplemented cells, such as SM, phosphatidylserine

(PS),

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and phosphatidylinositol (PI). Only in the case of PI, was there an effect of these fatty acid changes on the unsatn. index;

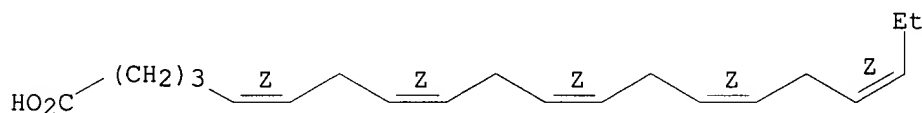
.beta.-sitosterol incorporation resulted in an increase in the U.I. It is possible that the obsd. growth inhibition by .beta.-sitosterol may be mediated through the influence of signal transduction pathways that involve membrane phospholipids.

IT 10417-94-4
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(.beta.-sitosterol inhibits HT-29 human colon cancer cell growth and alters membrane lipids)

RN 10417-94-4 CAPLUS

CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L42 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1994:587306 CAPLUS

DN 121:187306

TI Cholesteryl esters of unsaturated fatty acids for use in pharmaceutical and nutritional composition

IN Horrobin, David Frederick

PA Scotia Holdings PLC, UK

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 606012	A1	19940713	EP 1993-310599	19931229
	EP 606012	B1	19980715		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT,				

SE

AT	168267	E	19980815	AT 1993-310599	19931229
ES	2119871	T3	19981016	ES 1993-310599	19931229
AU	9352763	A1	19940714	AU 1993-52763	19931230
AU	673555	B2	19961114		
ZA	9400025	A	19940819	ZA 1994-25	19940104
CA	2112824	AA	19940707	CA 1994-2112824	19940105
NO	9400035	A	19940707	NO 1994-35	19940105
JP	06234644	A2	19940823	JP 1994-338	19940106
CN	1096197	A	19941214	CN 1994-100242	19940106
US	5604216	A	19970218	US 1994-178553	19940106

PRAI GB 1993-125 19930106

AB Cholesterol fatty acid esters, where the fatty acid is chosen from an essential fatty acid, parinaric acid, and columbinic acid may be used in therapy, esp. in the treatment of cancer and cardiovascular disease. For

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example, cholesteryl (z,z,z)-octadeca-6,9,12-trienoate was prepd.
Formulations contg. cholesterol .gamma.-linolenic acid ester are also described.

IT 70110-50-8P

RL: PREP (Preparation)

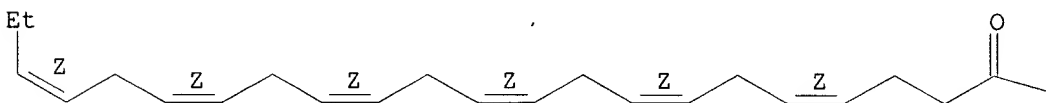
(prepn. of, as therapeutic agent and nutritional supplement)

RN 70110-50-8 CAPLUS

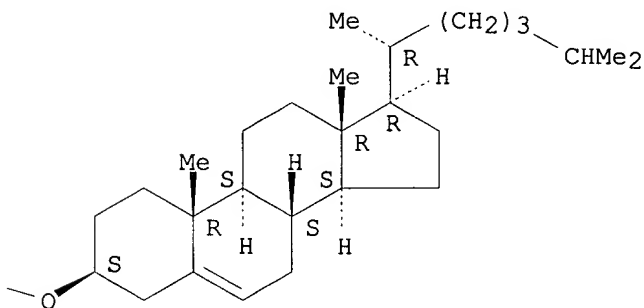
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosa-hexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 8 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1994:477552 CAPLUS

DN 121:77552

TI Analysis of adrenal cholesteryl esters by reversed phase high performance liquid chromatography

AU Cheng, Behling; Kowal, Jerome

CS Sch. Med., Case Western Reserve Univ., Cleveland, OH, 44106, USA

SO J. Lipid Res. (1994), 35(6), 1115-21

CODEN: JLPRAW; ISSN: 0022-2275

DT Journal

LA English

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AB A reversed phase high performance liq. chromatog. (HPLC) method was developed for direct profiling and detn. of adrenal cholesteryl ester compn. Cholesteryl adenate and cholesteryl ceronate, which are not com. available, were synthesized as markers. Lipid exts. of rat adrenal homogenates or lipid droplets were individually applied to a conditioned silica gel-60 column which sepd. cholesteryl esters from other native lipids. The eluted cholesteryl ester fraction was then analyzed by HPLC. With cholesteryl heptadecanoate as internal std., seven adrenal cholesteryl esters were detected and quantified: cholesteryl ceronate, cholesteryl arachidonate, cholesteryl adenate, cholesteryl myristate, cholesteryl oleate, cholesteryl palmitate, and cholesteryl stearate. Among them, cholesterol adenate appeared to be the major sterol ester stored in the rat adrenal.

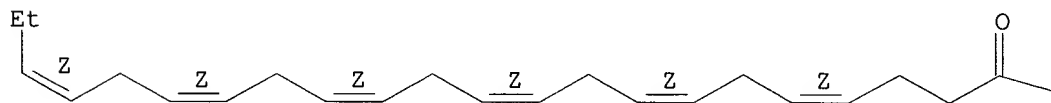
IT **70110-50-8, Cholesteryl ceronate**
 RL: ANT (Analyte); ANST (Analytical study)
 (detn. of, of adrenal gland by reversed-phase HPLC)

RN 70110-50-8 CAPLUS

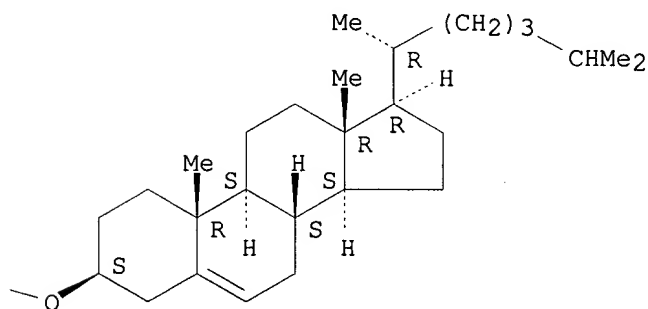
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 9 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1991:425244 CAPLUS

DN 115:25244

TI Separation of cholesterol esters by silver ion chromatography using high-performance liquid chromatography or solid-phase extraction columns packed with a bonded sulfonic acid phase

AU Hoving, Edda B.; Muskiet, Frits A. J.; Christie, William W.

CS Cent. Lab. Clin. Chem., Univ. Hosp., Groningen, 9700 RB, Neth.

SO J. Chromatogr. (1991), 565(1-2), 103-10

CODEN: JOCRAM; ISSN: 0021-9673

DT Journal

LA English

AB Two methods for the sepn. of cholesterol esters, based on the no. of double bonds in their fatty acid moieties, are presented. Ag+ chromatog.,

usually performed on TLC plates, was made suitable for HPLC and solid-phase extn. Sepn. on a bonded sulfonic acid phase loaded with Ag+ was achieved with cholesterol esters contg. up to 6 double bonds in their fatty acid moieties. No cross-contamination between fractions with different nos. of double bonds was detected with the HPLC method, as was demonstrated by subsequent gas chromatog. anal. of the fatty acid moieties, following transmethylation. For adequate sepns. with the solid-phase extn. columns, it proved important to avoid overloading. Blood plasma of human and sheep was analyzed. The methods may be of use for the off-line analyses of the sterol compns. of the isolated

fractions,

which each contain sterol esters with an equal no. of double bonds in their fatty acid moieties.

IT 70110-50-8

RL: PROC (Process)

(sepn. of, of blood plasma of human or lab. animals by HPLC or extn. of chromatog. with silver ions)

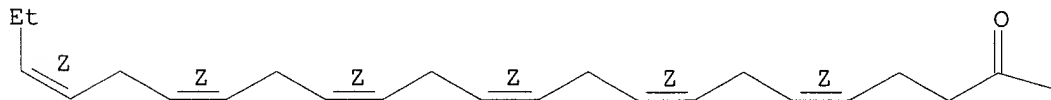
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaheptaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



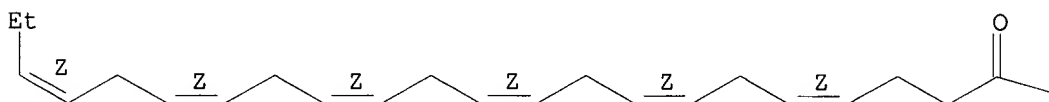
The chemical structure shows a steroid nucleus with the following features:

- Ring A:** Contains a ketone group at C3 (indicated by a dashed bond to an oxygen atom).
- Ring B:** Has a methyl group at C10 (wedge bond) and a double bond between C5 and C6 (indicated by a dashed bond to H at C6).
- Ring C:** Has a methyl group at C13 (wedge bond) and a hydrogen at C14 (wedge bond).
- Ring D:** Has a methyl group at C14 (wedge bond) and a side chain at C13.
- Side Chain:** Attached to C13, it consists of a quaternary carbon bonded to a methyl group (wedge bond), a hydrogen atom (dashed bond), and a $(CH_2)_3CHMe_2$ group.
- Chiral Centers:** Stereocenters are marked with 'S' (solid wedge) and 'H' (dashed wedge) at C10, C13, C14, and C15.

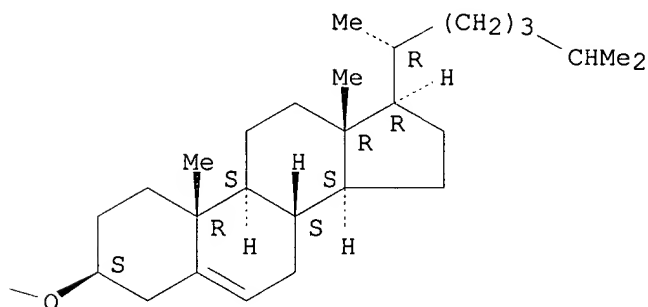
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Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 11 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1990:456849 CAPLUS

DN 113:56849

TI Molecular species of cholesteryl esters formed in abetalipoproteinemia: effect of apoprotein B-containing lipoproteins

AU Subbaiah, P. V.; Banerji, B.; Gregg, R. E.; Bagdade, J. D.

CS Dep. Med., Rush Med. Coll., Chicago, IL, 60612, USA

SO J. Lipid Res. (1990), 31(5), 927-32

CODEN: JLPRAW; ISSN: 0022-2275

DT Journal

LA English

AB In order to study the effects of very low d. (VLDL) and low d. (LDL) lipoproteins on the activity and specificity of lecithin:cholesterol acyltransferase (LCAT), the authors detd. the mol. species of cholesteryl esters (CE) synthesized in the plasma from three abetalipoproteinemic (ABL) patients, before and after supplementation with normal VLDL or LDL. The patients' plasma had significantly lower concn. of 18:2 CE and higher concns. of 16:0 CE and 18:1 CE compared to normal plasma. Incubation of ABL plasma with [4-¹⁴C]cholesterol at 37.degree. and the subsequent anal. of labeled CE formed by high performance liq. chromatog. revealed that

the

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308-4488

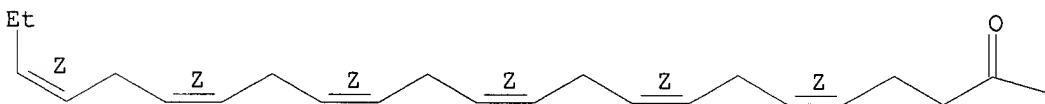
major species formed was 16:0 CE (34% of total label), whereas similar incubation of the $d>1.063$ g/mL fraction of normal plasma resulted in the formation of predominantly 18:2 CE (45% of total label). Addn. of normal VLDL or LDL to ABL plasma stimulated the total LCAT activity by 30-80% and normalized the CE species synthesized. The LCAT activity of a normal $d>1.063$ g/mL fraction also was stimulated by the normal VLDL or LDL, but there was no alteration in the species of CE formed. Most of the CE synthesized was found in the added VLDL or LDL with both ABL and normal plasma, indicating that the CE transfer (CET) activity was not affected in ABL plasma. These results suggest that while the VLDL and LDL are required for the maximal activity of LCAT, the species of CE formed are primarily detd. by the mol. species compn. of phosphatidylcholine in the plasma.

IT 70110-50-8
 RL: FORM (Formation, nonpreparative)
 (formation of, low-d. and very-low-d. lipoproteins effects on, in abetalipoproteinemia of humans, lecithin:cholesterol acyltransferase in relation to)

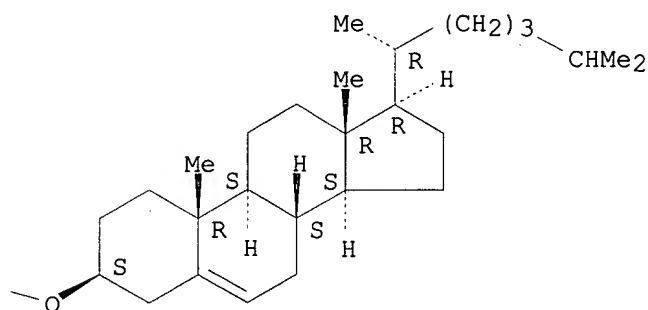
RN 70110-50-8 CAPLUS
 CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1989:571556 CAPLUS

DN 111:171556

TI Fatty acid desaturase activities are modulated by phytosterol incorporation in microsomes

AU Leikin, Alicia I.; Brenner, Rodolfo R.

CS Inst. Invest. Bioquim. La Plata, La Plata, Argent.

SO Biochim. Biophys. Acta (1989), 1005(2), 187-91

CODEN: BBACAQ; ISSN: 0006-3002

DT Journal

LA English

AB The effect of phytosterol-rich diets (3% .beta.-sitosterol + 2% campesterol) on rat liver microsomal fatty acid desaturases, membrane dynamics, and lipid compn. was investigated. After a 21-day period, phytosterol was incorporated into microsomes and the membrane fluidity decreased. There were no changes in either the phospholipid compn. or in the total sterol content. However, the phytosterol/cholesterol ratio increased. In the animals fed phytosterols, the .DELTA.5-, .DELTA.6-,

and .DELTA.9-fatty acid desaturases were more active than in control animals. The changes in the lipid fatty acid compn. were consistent with those of the desaturase activities. Evidently: (1) dietary phytosterol modulates desaturase activities; (2) phyosterols make the membrane more rigid but

do not induce changes in the relative phospholipid compn.; (3) .DELTA.9-, .DELTA.5-, and .DELTA.6-desaturase activities increase when the membrane becomes more rigid without changes in the phospholipid compn.

IT 10417-94-4

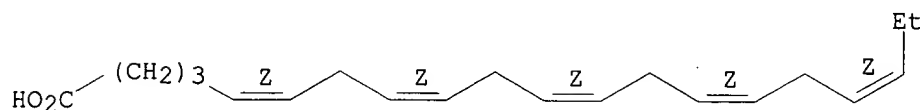
RL: BIOL (Biological study)

(of liver microsomes, **phytosterols** incorporation into microsomes effect on)

RN 10417-94-4 CAPLUS

CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L42 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2000 ACS
 AN 1988:111110 CAPLUS
 DN 108:111110
 TI Plasma triacylglycerol fatty acids in diabetic rats fed gamma-linolenic and marine n-3 fatty acids
 AU Huang, Yung Sheng; Horrobin, D. F.
 CS Efamol Res. Inst., Kentville, NS, B4N 4H8, Can.
 SO Med. Sci. Res. (1987), 15(19), 1207-9
 CODEN: MSCREJ
 DT Journal
 LA English
 AB Streptozotocin-diabetic rats were fed fat-free diets supplemented with 29% conc. contg. 84% .gamma.-linolenic acid (18:3n-6) and 16% linoleic acid (18:2n-6), 2% fish oil conc. contg. 17.1% eicosapentaenoic acid (20:5n-3), 1.6% docosapentaenoic acid (22:5n-3) and 53.2% docosahexaenoic acid (22:6n-3), or 1% of each conc., and the fatty acid compn. of plasma phospholipids, cholesterol esters, and triglycerides was compared with that of control rats fed the same diets and supplements. The lipid levels in diabetic and control rats on the same diet were similar, but phospholipid and triglyceride levels were lower in both groups fed the n-3 fatty acids. Diabetes-induced changes in satd. and monounsatd. fatty acids of plasma lipids were not affected by diet. In diabetic rats fed 2% C18:3n-6, polyunsatd. fatty acids increased in all lipids, esp. triglycerides. Diabetes elevated the proportions of both n-3 and n-6 fatty acids in triglycerides, and increases in n-3 in rats fed the fish oil conc. were at the expense of n-6. In phospholipids, arachidonic acid (20:4n-6) levels were unchanged and 18:2n-6, 18:3n-6, and eicosatrienoic acid (20:3n-6) were increased. This suggests that .DELTA.6-desaturase and .DELTA.5-desaturase are inhibited in diabetes. Diabetes accentuated the suppression of .DELTA.5-desaturase activity found with the n-3 fatty acid diet. In cholesterol esters in diabetes, n-3 fatty acids were lower than in phospholipids.
 IT 70110-50-8
 RL: BIOL (Biological study)
 (of blood plasma, dietary n-3 and n-6 polyunsatd. fatty acids effect on, in diabetes)
 RN 70110-50-8 CAPLUS
 CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

CCCCCCCCC/C=C/C/C=C/C/C=C/C/C=C/C/C=C/C(=O)C

The chemical structure is a steroid derivative with the following features:

- Ring System:** Four fused rings (A, B, C, D) with stereochemistry indicated by wedges and dashes.
- Substituents:**
 - Ring A:** A hydroxyl group (OH) is attached at the 3-position with a wedge bond.
 - Ring B:** A methyl group (Me) is attached at the 10-position with a wedge bond. A double bond is located between the 5 and 6 positions.
 - Ring C:** A methyl group (Me) is attached at the 13-position with a wedge bond. A hydrogen atom (H) is attached at the 14-position with a wedge bond.
 - Ring D:** A methyl group (Me) is attached at the 13-position with a wedge bond. A hydrogen atom (H) is attached at the 14-position with a dash bond. A side chain is attached at the 17-position, consisting of a $(\text{CH}_2)_3$ group followed by a CHMe_2 group.
- Labels:** The letters 'S' and 'R' are placed near various stereocenters to indicate their configuration. For example, 'S' is near the 3-OH, 10-Me, 13-Me, and 14-H (wedge) groups, while 'R' is near the 14-H (dash) and 17-side chain group.

Searched by John Dantzman 308-4488

and 0.032, resp. Phosphatidylcholine had the same apparent area in all complexes, 56.5 .ANG.2, which was larger than that of uncomplexed phosphatidylcholine, 53.3 .ANG.2. This implies that the conformation or orientation of the 2 polyunsatd. species in complexes is markedly different from the others studied. The areas and hydrations of all uncomplexed cholesteryl esters were similar. Because mixing of complexes with uncomplexed cholesteryl ester deviated pos. from ideality, the apparent mol. areas of the uncomplexed cholesteryl esters ranged from 161 (complex-rich) to 107 .ANG.2 (cholesteryl ester-rich). The similarity of the monolayer phase complex stoichiometries and the bilayer miscibilities of cholesteryl oleate suggests a correspondence between states. If so, the availability of cholesteryl arachidonate or docosahexaenoate in bilayers should be .apprx.2-fold higher than that of other naturally occurring cholesteryl esters.

IT 70110-50-8

RL: BIOL (Biological study)

(monolayer membranes contg. phosphatidylcholine and, phase and surface properties of, acyl chain unsatn. in relation to)

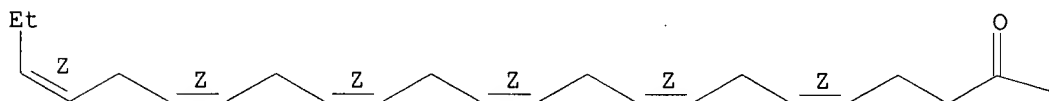
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

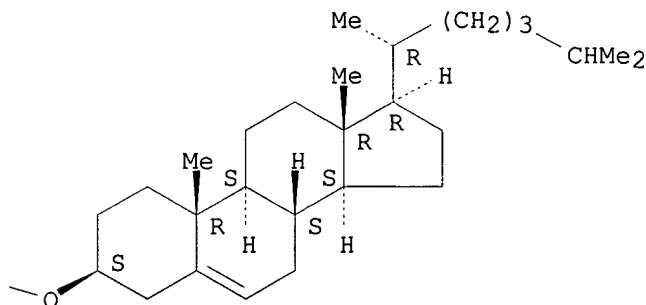
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1987:212000 CAPLUS

DN 106:212000

TI Abnormal myocardial lipid composition in an infant with type II glutaric aciduria

AU Galloway, John H.; Cartwright, Ian J.; Bennett, Michael J.

CS Dep. Hum. Metab., R. Hallamshire Hosp., Sheffield, UK

SO J. Lipid Res. (1987), 28(3), 279-84

CODEN: JLPRAW; ISSN: 0022-2275

DT Journal

LA English

AB Myocardial lipids of an infant with glutaric aciduria type II (GAII) who die from sudden cardiac failure and of 5 infants who died suddenly from indeterminate causes (sudden infant death syndrome, SIDS) were analyzed. Histol. of the SIDS hearts was normal, but there was marked fatty deposition in the GAII heart. Total lipid was elevated 20-fold in the GAII heart. Of total fatty acids, 75% was derived from phospholipids in SIDS heart and 89% from neutral lipids in GAII heart. Increased levels

of free oleic acid and a 6-fold elevation in the (n-6)/(n-3) fatty acid ratio in phospholipid were noted in GAII heart compared to SIDS hearts.

IT 70110-50-8

RL: BIOL (Biological study)

(of heart, in glutaric aciduria type II in human infants)

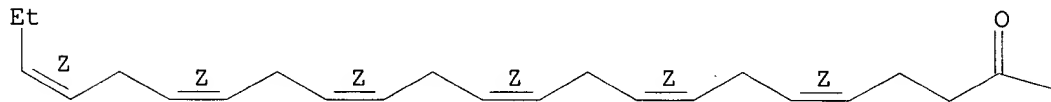
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehaenoate (9CI) (CA INDEX NAME)

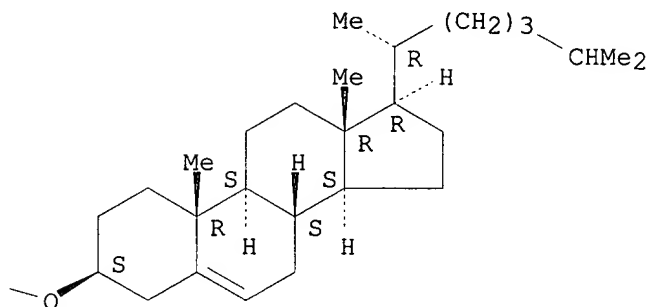
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



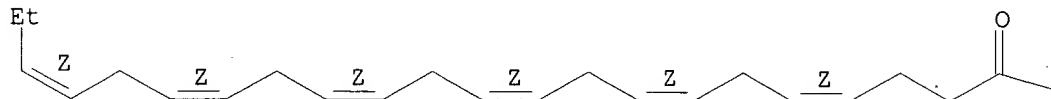
PAGE 1-B



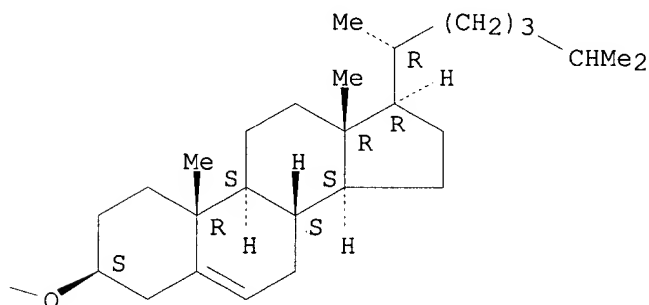
L42 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2000 ACS
 AN 1987:100300 CAPLUS
 DN 106:100300
 TI Enrichment of long-chain .omega.9 and .omega.6 fatty acids in arterial
 cholesteryl esters in the early phase of atherogenesis
 AU Yla-Herttuala, Seppo
 CS Dep. Biomed. Sci., Univ. Tampere, Tampere, SF-33101, Finland
 SO Prog. Lipid Res. (1986), 25(Essent. Fatty Acids, Prostaglandins
 Leukotrienes), 475-8
 CODEN: PLIRDW; ISSN: 0163-7827
 DT Journal
 LA English
 AB The fatty acid compn. of cholesteryl esters of human coronary arteries
 was altered in the early phases of atherogenesis (i.e. fatty streaks and
 fibrous plaques). Specifically, the relative proportions of oleate,
 eicosatrienoate (both 20:3.omega.9 and 20:3.omega.6 isomers),
 arachidonate, and docosaehaenoate increased with concomitant decreases
 in the short-chain satd. fatty acids. Causes of these changes in
 cholesteryl ester compn. during atherogenesis are discussed.
 IT 70110-50-8
 RL: BIOL (Biological study)
 (of coronary artery, in atherogenesis in humans)
 RN 70110-50-8 CAPLUS
 CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-
 docosaehaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1986:571160 CAPLUS

DN 105:171160

TI A high cholesterol/cholate diet induced fatty liver in spontaneously hypertensive rats

AU Ueno, Koji; Okuyama, Harumi

CS Fac. Pharm. Sci., Nagoya City Univ., Nagoya, 467, Japan

SO Lipids (1986), 21(8), 475-80

CODEN: LPDSAP; ISSN: 0024-4201

DT Journal

LA English

AB A high cholesterol [57-88-5] diet induced fatty liver in spontaneously hypertensive rats. Although cholesterol ester and triacylglycerol accumulated in large amts. in liver, the increases of these lipids in plasma were relatively small and no increase in cholesterol and cholesterol ester was obsd. in aorta. In rats fed normal diet, plasma cholesterol ester mainly consisted of arachidonate species; however, oleate and linoleate esters became the most prominent species in rats fed a high-cholesterol diet. The amts. of oleate and linoleate at the 2-position of phosphatidylcholine in both plasma and liver were increased slightly, but the fatty acids of aorta lipids changed little by feeding a high cholesterol diet. These results indicate that the liver of rats fed the high cholesterol diet do not secrete cholesterol ester and

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triacylglycerol with altered fatty acids as rapidly as they are synthesized and that the increased levels of cholesterol oleate in liver and plasma are not directly correlated with atherogenic lesions under these conditions.

IT 70110-50-8

RL: BIOL (Biological study)

(of blood plasma and liver, dietary cholesterol effect on)

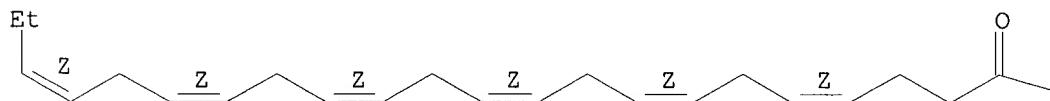
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaheptaenoate (9CI) (CA INDEX NAME)

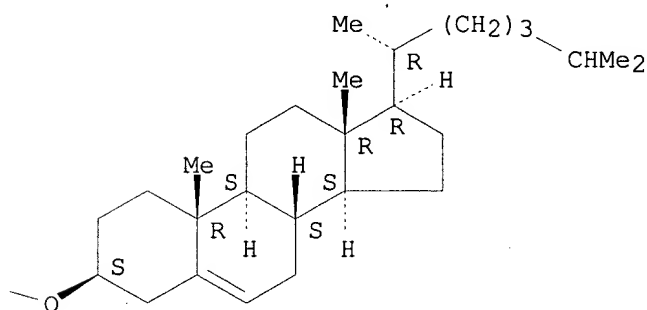
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1986:531638 CAPLUS

DN 105:131638

TI Fatty acid composition of individual plasma steryl esters in phytosterolemia and xanthomatosis

AU Kuksis, A.; Myher, J. J.; Marai, L.; Little, J. A.; McArthur, R. G.; Roncari, D. A. K.

CS Bant. Best Dep., Univ. Toronto, Toronto, ON, M5G 1L6, Can.

SO Lipids (1986), 21(6), 371-7

CODEN: LPDSAP; ISSN: 0024-4201

Searched by John Dantzman

308-4488

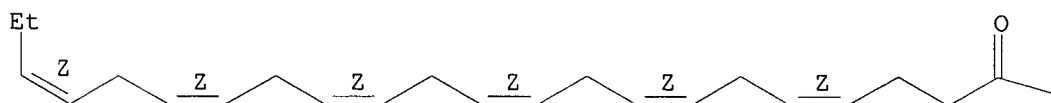
DT Journal
 LA English
 AB The fatty acid compn. of the individual plasma steryl esters was detd. in a subject with phytosterolemia and xanthomatosis. In general, each fatty acid was esterified to the same complement of sterols, and the esterified sterols possessed a compn. comparable to that of the free plasma sterols, which was comprised of about 75% cholesterol, 6% campesterol, 4% 22,23-dihydrobrassicasterol, and 15% .beta.-sitosterol. The fatty acid compn. of the steryl esters differed from that of the 2-position of the plasma phosphatidylcholines, which contained less palmitic and oleic and more linoleic acid. The plasma cholesteryl and plant steryl esters in phytosterolemia may originate from both synthesis in plasma via the lecithin-cholesterol acyltransferase and synthesis in tissues via the acylCoA-cholesterol acyltransferase.

IT 70110-50-8
 RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BIOL (Biological study); PROC (Process)
 (of blood plasma, in phytosterolemia and xanthomatosis in human)

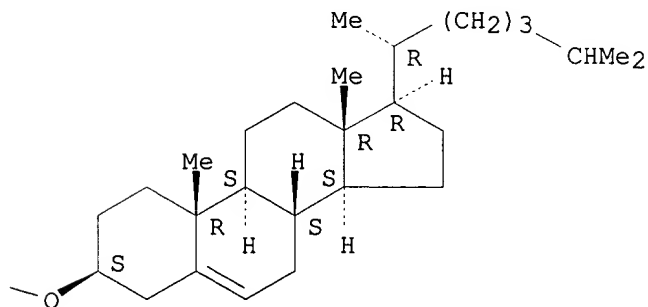
RN 70110-50-8 CAPLUS
 CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1986:107333 CAPLUS

DN 104:107333

TI The fatty-acid spectrum in plasma and adipose tissue in patients with psoriasis

AU Vahlquist, C.; Berne, B.; Boberg, M.; Michaelsson, G.; Vessby, B.

CS Dep. Dermatol., Univ. Uppsala, Uppsala, Swed.

SO Arch. Dermatol. Res. (1985), 278(2), 114-19

CODEN: ADREDL; ISSN: 0340-3696

DT Journal

LA English

AB Long-chained fatty acids were examd. in plasma lipid esters and adipose tissue obtained from 20 male psoriatic patients and 36 matched controls. In comparison with healthy controls, the patients' plasma lipid esters contained lower levels of linoleic acid and .alpha.-linolenic acid, and higher levels of dihomogamma.-linolenic acid. In the adipose tissue of the patients, the amt. of .alpha.-linolenic acid was decreased, whereas that of arachidonic acid was increased. The obsd. changes were more pronounced in patients with severe psoriasis than in those with a milder form of the disease. Apparently, psoriatic patients differ from healthy controls with regard to the distribution of several of the essential long-chained fatty acids involved in the biosynthesis of prostaglandins and leukotrienes. The relevance of these findings to the development of psoriasis remains to be established.

IT 70110-50-8

RL: BIOL (Biological study)

(of blood plasma, in psoriasis in humans)

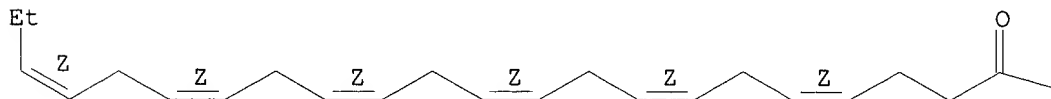
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehaenoate (9CI) (CA INDEX NAME)

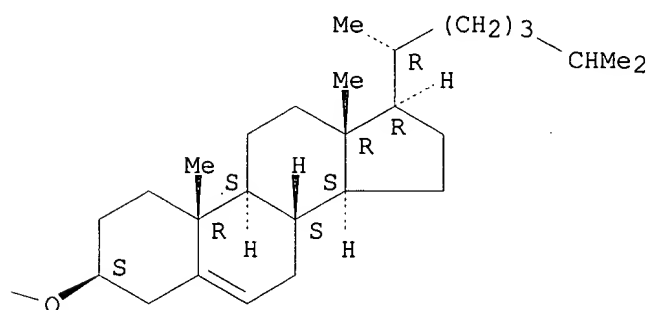
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1986:18999 CAPLUS

DN 104:18999

TI Fatty acid composition of serum cholesteryl esters in 3- to 18-year-old Finnish children and its relation to diet

AU Moilanen, Teemu; Raesaenen, Leena; Viikari, Jorma; Aakerblom, Hans K.; Ahola, Maarit; Uhari, Matti; Pasanen, Matti; Nikkari, Tapio

CS Dep. Biomed. Sci., Univ. Tampere, Tampere, SF-33101/10, Finland

SO Am. J. Clin. Nutr. (1985), 42(4), 708-13

CODEN: AJCNAC; ISSN: 0002-9165

DT Journal

LA English

AB The compn. of serum cholesteryl esters (CE) was detd. by gas chromatog. in

1348 boys and girls. A dietary survey was carried out simultaneously by using the 48-h recall method. The dietary polyunsatd./satd. fatty acid (PS) ratio was highly correlated with CE fatty acids: pos. with linoleate and total .omega.6 fatty acids and neg. with satd., monounsatd., and .omega.3 polyunsatd. fatty acids. The highest mean percentage of cholesterol linoleate [604-33-1] was found in 15-yr-old girls (52.7%)

and

lowest in 3-yr-old girls (48.1%). Age, sex, and the degree of puberty had no independent effect on cholesterol linoleate after it had been adjusted for the effect of dietary P/S ratio. The fatty acid compn. of serum CE depends on the quality of dietary fat, and cholesterol linoleate is a useful reflector of the dietary P/S ratio. The neg. correlation between CE .omega.3 fatty acids and dietary P/S ratio may be due to displacement of the .omega.3 acids in serum CE by the much higher proportion of dietary linoleate.

IT 70110-50-8

RL: BIOL (Biological study)

(of blood serum, of children, dietary fat effect on, age and sex in relation to)

RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehaenoate (9CI) (CA INDEX NAME)

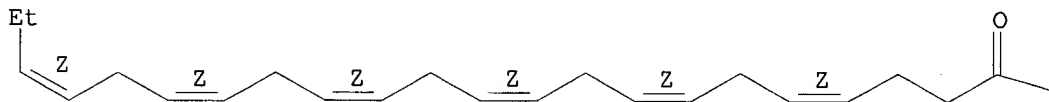
Absolute stereochemistry.

Double bond geometry as shown.

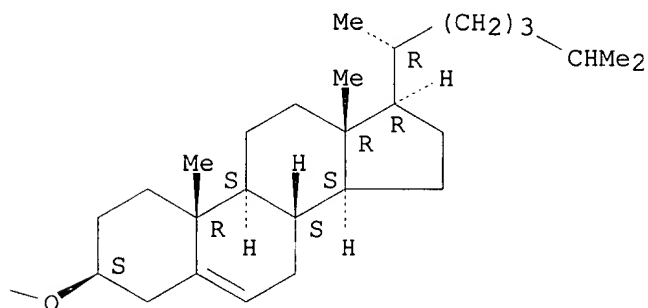
Searched by John Dantzman

308-4488

PAGE 1-A



PAGE 1-B



L42 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2000 ACS
 AN 1985:146909 CAPLUS
 DN 102:146909
 TI Accumulation of HDL-like lipoproteins in the plasma low-density fractions of tumor-bearing mice
 AU Damen, Jan; De Widt, John; Hengeveld, Trudi; Van Blitterswijk, Wim J.
 CS Div. Cell Biol., Netherlands Cancer Inst., Amsterdam, 1066 CX, Neth.
 SO Biochim. Biophys. Acta (1985), 833(3), 495-8
 CODEN: BBACAQ; ISSN: 0006-3002
 DT Journal
 LA English
 AB Outgrowth of the transplanted GRSL lymphoma in GR mice yielded several-fold increased blood plasma levels of low- and very-low-d. lipoproteins, while high-d. lipoproteins (HDL) were strongly reduced. Changes in cholesteryl ester fatty acid profiles indicated an accumulation of HDL-like particles rather than LDL in the low-d. fractions. By i.v. injection of [14C]cholesteryl ester-labeled HDL into tumor-bearing mice, conversion of HDL into lipoproteins of low d. was demonstrated.
 IT 61510-11-0
 RL: BIOL (Biological study)
 (of lipoproteins of blood plasma of tumor-bearing host)
 RN 61510-11-0 CAPLUS

Searched by John Dantzman 308-4488

L42 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2000 ACS
AN 1985:42304 CAPLUS
DN 102:42304
TI Separation of neutral lipids and free fatty acids by high-performance liquid chromatography using low wavelength ultraviolet detection
AU Hamilton, James G.; Comai, Karen
CS Dep. Pharmacol., Hoffmann-La Roche, Nutley, NJ, 07110, USA
SO J. Lipid Res. (1984), 25(10), 1142-8
CODEN: JLPRAW; ISSN: 0022-2275
DT Journal
LA English
AB Normal phase, isocratic high-performance liq. chromatog. methods are described for the sepn. of neutral lipid and fatty acid classes using low wavelength detection. Prior to HPLC, methods were developed and are described for the sepn. of phospholipids from neutral lipids and fatty acids using small (600 mg) silica Sep-Paks. Recoveries of cholesteryl esters, triglycerides, fatty acids, and phospholipids from the silica columns were >95%. Two mobile phases are described for lipid class sepn. by HPLC. The 1st mobile phase, hexane-2-propanol-AcOH acid (100:0.5:0.01), resulted in incomplete sepn. of cholesteryl ester and triglyceride but excellent sepn. of fatty acids and cholesterol. The 2nd mobile phase, hexane-Bu chloride-MeCN-AcOH (90:10:1.5:0.01), resulted in complete sepn. of the 4 lipid classes. This mobile phase also sepd. individual triglycerides and fatty acids based on the no. of double bonds. Recoveries of radiolabeled lipids for the 4 lipid classes from HPLC was >95% with both mobile phases.

IT **61510-11-0**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by HPLC with UV detection)
RN 61510-11-0 CAPLUS

L42 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2000 ACS
AN 1980:548713 CAPLUS
DN 93:148713
TI Effects of linolenic acid deficiency on the fatty acid patterns in plasma and liver cholesteryl esters, triglycerides and phospholipids in female rats
AU Tinoco, J.; Endemann, G.; Hincenbergs, I.; Medwadowski, B.; Miljanich, P.; Williams, M. A.
CS Dep. Nutr. Sci., Univ. California, Berkeley, CA, 94720, USA
SO J. Nutr. (1980), 110(7), 1497-505
CODEN: JONUAI; ISSN: 0022-3166
DT Journal
LA English
AB These expts. were performed to measure the effects of linolenic acid [463-40-1] deficiency on neutral lipids of plasma and liver, and to investigate the metabolic interaction between dietary choline [62-49-7] and linolenic acid. Rats were fed for 2 generations on a linolenic acid-deficient diet contg. Me linoleate as the only source of lipid. Control rats were supplemented with Me linolenate; 2nd-generation linolenate-deficient rats and control rats were fed low-methionine, choline-deficient diets for 2 wks. Half the animals in each group were given choline-supplemented diets. Plasma and liver total cholesterol

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[57-88-5], esterified cholesterol, triglyceride and major phospholipid classes, and the fatty acids of these classes, were measured. Linolenic acid deficiency reduced the concns. of plasma triglycerides in both choline-deficient and choline-supplemented rats. Evidence for a metabolic

interaction between choline and linolenic acid was not obtained because the rats responded very weakly to the choline deficiency. Linolenate deficiency reduced the proportions of n-3 fatty acids, particularly C22:6

IT 70110-50-8

RL: BIOL (Biological study)

(of blood plasma and liver, in linolenic acid deficiency)

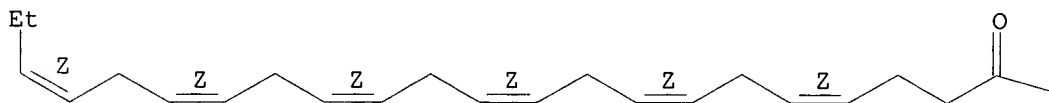
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosaehaenoate (9CI) (CA INDEX NAME)

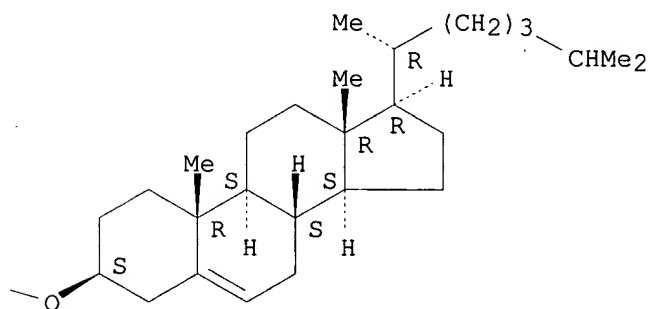
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1979:182488 CAPLUS

DN 90:182488

TI Methanolysis of cholesteryl esters: conditions for quantitative preparation of methyl esters

AU Tuckey, Robert C.; Stevenson, Patricia M.

Searched by John Dantzman

308-4488

CS Dep. Biochem., Univ. Western Australia, Nedlands, Aust.

SO Anal. Biochem. (1979), 94(2), 402-8

CODEN: ANBCA2; ISSN: 0003-2697

DT Journal

LA English

AB The conditions required to obtain a quant. yield of Me esters from cholesteryl esters by alk. methanolysis were investigated. Methanolysis of

the cholesteryl ester for 60 min at room temp. with M NaOMe reagent ensured complete reaction. Some ester hydrolysis always accompanied methanolysis and necessitated acid-catalyzed methylation of the resultant fatty acids after completion of the alcoholysis. Anal. of the compn. of Me ester product and remaining cholesteryl ester substrate before methanolysis had gone to completion showed selective hydrolysis of some fatty acid cholesteryl esters and illustrates the importance of obtaining a quant. yield of Me esters following methanolysis.

IT 70110-50-8

RL: RCT (Reactant)

(methanolysis of, alk., fatty acids Me esters formation in relation

to)

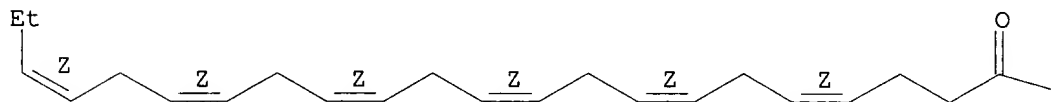
RN 70110-50-8 CAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosa-hexaenoate (9CI) (CA INDEX NAME)

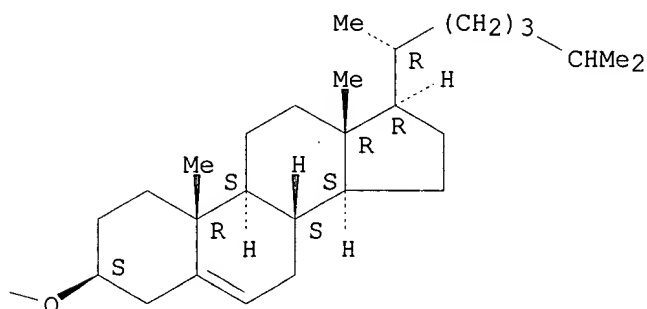
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L42 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2000 ACS

AN 1977:50928 CAPLUS

DN 86:50928

TI The effects of ACTH, aminoglutethimide and hypophysectomy on rat adrenal lipids

AU Miyachi, Yukitaka

CS Sch. Med., Univ. Tokyo, Tokyo, Japan

SO Nippon Naibumpi Gakkai Zasshi (1976), 52(10), 973-82

CODEN: NNGZAZ

DT Journal

LA Japanese

AB ACTH [9002-60-2] administration to the rat decreased the cholesterol ester

(I) content of adrenal gland, preferentially cholesteryl arachidonate (II)

[604-34-2]. Hypophysectomy or aminoglutethimide (III) [125-84-8] administration suppressed adrenal steroidogenesis and increased adrenal I content. Cholesteryl palmitate [601-34-3], cholesteryl oleate [303-43-5],

and cholesteryl linoleate (IV) [604-33-1] were increased and II and cholesteryl docosaenoate (V) [61510-10-9] were decreased in the lipid fraction of adrenal glands from hypophysectomized rats. III administration increased II, IV, and cholesteryl palmitoleate [16711-66-3], and decreased V and cholesteryl docosaehaenoate [61510-11-0].

IT 61510-11-0

RL: BIOL (Biological study)

(of adrenal gland, ACTH effect on, corticosteroid formation in relation to)

RN 61510-11-0 CAPLUS